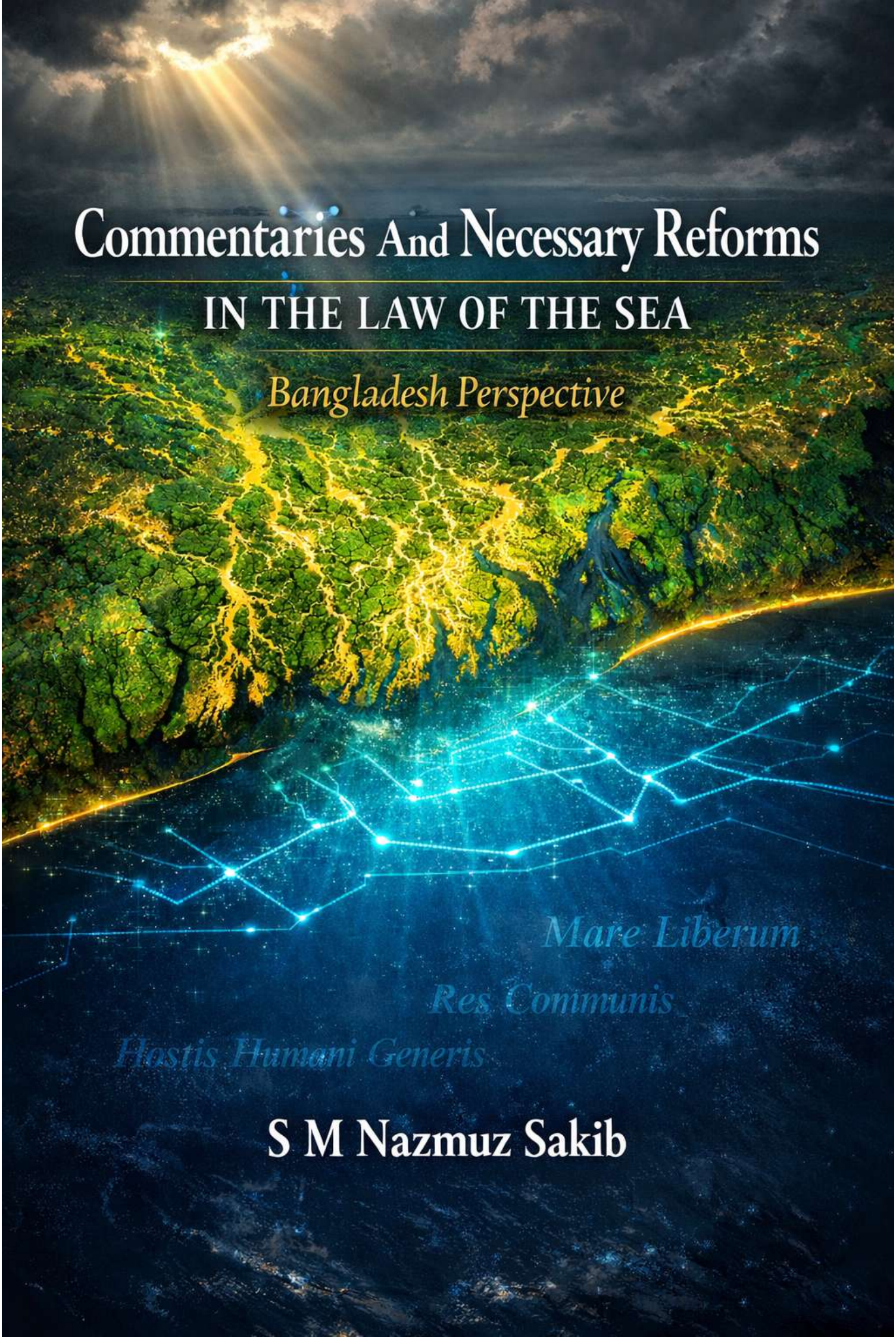
Commentaries And Necessary Reforms
IN THE LAW OF THE SEA

Bangladesh Perspective



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Commentaries And Necessary Reforms in The Law of The Sea: Bangladesh Perspective

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Commentaries And Necessary Reforms in The Law of The Sea: Bangladesh Perspective

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PART ONE

FOUNDATIONS, HISTORY, AND JURISPRUDENTIAL ARCHITECTURE OF THE LAW OF THE SEA WITH SPECIAL REFERENCE TO BANGLADESH

A COMMENTARY ON MARITIME SOVEREIGNTY, LEGAL PHILOSOPHY, OCEAN GOVERNANCE, AND THE IMPERATIVE OF REFORM IN THE AGE OF BLUE ECONOMY AND CLIMATE ACCOUNTABILITY

PREFACE TO PART ONE

The sea has always commanded the imagination of philosophers, lawmakers, and sovereigns alike. It is the oldest frontier known to human civilisation, and it remains, in the twenty-first century, the most contested, the most valuable, and the most legally complex frontier that any nation-state must navigate. For Bangladesh, a nation born of struggle and shaped by rivers, delta, and ocean, the sea is not merely a geographic boundary. It is a dimension of national destiny. The Bay of Bengal, in whose northern embrace Bangladesh sits, contains within its waters not only fish and hydrocarbons and minerals, but the future prosperity, the ecological survival, and the sovereign identity of a nation of over 170 million people.

This textbook is written at a moment of extraordinary transformation. The international law of the sea, long regarded as a relatively settled body of norms anchored in the United Nations Convention on the Law of the Sea of 1982, is undergoing a profound jurisprudential revolution. The Advisory Opinion of the International Tribunal for the Law of the Sea delivered on 21 May 2024, in the matter of climate change obligations under UNCLOS, has permanently altered the legal landscape by confirming that anthropogenic greenhouse gas emissions constitute marine pollution under international law. The BIMSTEC Agreement on Maritime Transport Cooperation, ratified in 2025 and championed at the second BIMSTEC Ports Conclave of July 2025, is reshaping the architecture of regional maritime governance in South and Southeast Asia. Bangladesh, with a vast Exclusive Economic Zone of approximately 118,813 square kilometres secured through landmark international arbitration, stands at the intersection of all these developments, at once beneficiary of new legal protections and subject of new legal obligations.

Yet Bangladesh's domestic maritime legal framework remains, by any candid assessment, inadequate to the demands of this moment. The Territorial Waters and Maritime Zones (Amendment) Act of 2021, while a significant improvement over the parent legislation of 1974, still leaves critical gaps in enforcement, environmental regulation, fisheries governance, hydrocarbon jurisdiction, and institutional architecture. The commentary in these twenty parts is not merely academic. It is a call to legislative and institutional action, grounded in the deepest traditions of legal philosophy, anchored in the most recent developments of international jurisprudence, and directed toward the practical reform of a body of law upon which millions of lives and an ocean of potential depend.

Part One undertakes the foundational work without which the commentary in subsequent parts cannot be fully understood. It traces the historical evolution of the law of the sea from the ancient world to the present, examines the philosophical and jurisprudential traditions that shaped the emerging body of international maritime law, provides a detailed account of the development and structure of UNCLOS as the governing instrument of global ocean law, situates Bangladesh within the geopolitical and legal geography of the Bay of Bengal, and provides a thorough account and commentary on the trajectory of Bangladeshi maritime legislation and the international arbitration that defined the nation's maritime boundaries. This Part also engages deeply with the theoretical, philosophical, and political dimensions of maritime sovereignty, examining the contributions of Hugo Grotius, Cornelius van Bynkershoek, Emmerich de Vattel, John Selden, and modern jurisprudential scholars to the conceptual framework within which all maritime law must ultimately be understood.

CHAPTER 1: THE SEA AS A LEGAL SPACE - PHILOSOPHICAL AND HISTORICAL BEGINNINGS

1.1 The Ancient World and the Problem of the Sea

The question of who owns the sea is as old as the question of who owns the land, and in many respects it is a far more difficult question, because the sea, unlike the land, does not yield to the ordinary markers of possession. One cannot fence the ocean. One cannot till it or cultivate it in the manner that has historically grounded claims of private and sovereign ownership over terrestrial territory. The sea moves. Its surface is transient. Its depth conceals resources that no eye can observe and no hand can hold without elaborate technological mediation. And yet the sea is enormously valuable, enormously dangerous, and enormously significant both for commerce and for conflict.

In the ancient Mediterranean world, the sea was conceptualised primarily as a medium of communication and of military power rather than as a space of legal governance in any systematic sense. The Roman Empire, which organised legal thought in the Western tradition more comprehensively than any other ancient polity, treated the sea as res communis omnium, a thing common to all. The Institutes of Justinian, compiled in the sixth century of the common era but reflecting principles of Roman jurisprudence developed over many centuries, stated explicitly that by natural law the sea and its shores belonged to all people. The sea was not capable of private ownership; it was, like the air, a thing whose very nature prevented exclusive appropriation.

This Roman jurisprudential tradition of the sea as common property was, however, never purely theoretical. The Roman Empire exercised extensive practical control over the Mediterranean, which it called Mare Nostrum, Our Sea, a phrase that was simultaneously a geographical description and a political claim. Roman naval power suppressed piracy, regulated commercial traffic, and enforced the Pax Romana across the waters of the known world. The legal concept of res communis coexisted with the political reality of maritime dominance, and this tension, between the philosophical principle of oceanic freedom and the practical assertion of maritime

jurisdiction, would persist across two millennia of legal history and find its most sophisticated modern expression in the UNCLOS framework.

The medieval period saw the emergence of more explicit claims to maritime sovereignty by European city-states and kingdoms. Venice claimed dominance over the Adriatic. Genoa asserted rights in the Ligurian Sea. The Hanseatic League exercised quasi-governmental authority over commercial shipping in the North and Baltic Seas. The Papal Bulls of the late fifteenth century, most notably the Inter Caetera of 1493 and the Treaty of Tordesillas of 1494, attempted a comprehensive division of the non-European world, including its seas, between the Crowns of Castile and Portugal. These instruments, lacking any universal legitimacy, were nonetheless enormously consequential in shaping the patterns of European maritime expansion, colonial exploitation, and the development of early modern international law.

It is important, in the context of Bangladesh and South Asia, to note that parallel traditions of maritime governance existed outside the European world. The Indian Ocean had been, for many centuries before European contact, a densely interconnected commercial space governed by customary rules of trade, passage, and port governance developed among Arab, Indian, Malay, Javanese, and East African maritime communities. The Chola Empire of South India exercised extensive maritime power across the Bay of Bengal in the tenth and eleventh centuries. The sultans of Bengal, whose authority preceded the Mughal period, had significant interests in the maritime trade of the Bay of Bengal. These non-European maritime legal traditions have been largely absent from the dominant narratives of international maritime law, which has been written predominantly from a Euro-centric perspective, but they are historically significant, and they deserve recognition in any comprehensive account of the law of the sea.

1.2 The Grotian Revolution: Freedom of the Seas and its Discontents

The foundational philosophical debate in modern maritime law was inaugurated in the seventeenth century, and its principal protagonists remain among the most frequently cited authorities in contemporary international legal scholarship. The debate was precipitated by the Portuguese claim to exclusive sovereignty over the Indian Ocean and its trade routes, a claim that the Netherlands, then emerging as a major commercial and naval power, found both economically intolerable and legally untenable.

Hugo Grotius, the Dutch jurist and humanist, wrote his Mare Liberum, or The Freedom of the Seas, in 1609. The work was originally composed as part of a larger treatise on prize law, De Jure Praedae, commissioned in connection with the Dutch East India Company's seizure of a Portuguese merchant vessel in the Strait of Malacca. But Mare Liberum transcended its immediate polemical purpose and became one of the most influential texts in the history of international law. Grotius argued, drawing on Roman law and natural law philosophy, that the sea could not be the subject of territorial sovereignty because it was by nature incapable of appropriation. The sea, he argued, was inexhaustible; the fish of the ocean could not be depleted by any nation's fishing; the waves left no trace of passage; and the paths of commerce across the ocean were as free as the wind that filled the sails of ships.

The philosophical underpinning of Grotius's argument was naturalistic and universalist. He grounded the freedom of the seas in the nature of things, in the common humanity of all peoples and their shared interest in commerce and communication, and in the divine order that had made the sea a medium rather than a territory. This was not, however, a purely abstract philosophical argument; it was simultaneously a geopolitical argument in the service of Dutch commercial interests, and it is important not to lose sight of this political dimension when evaluating its philosophical merits and its legacy.

John Selden, the English jurist, wrote Mare Clausum, or The Closed Sea, in 1635, as a direct rebuttal to Grotius. Selden argued that the sea was in principle capable of appropriation and sovereignty, that historical practice demonstrated the exercise of dominion over specific sea areas by various states, and that England in particular had exercised and continued to exercise sovereignty over the seas adjacent to its coasts. Selden's argument was also politically motivated, serving to defend English claims against Dutch commercial and fishing competition in the North Sea and adjacent waters. But it contained a genuine jurisprudential insight: that actual historical practice of states, not merely abstract philosophical principle, was a legitimate source of international law, and that the distinction between the high seas and the seas adjacent to the coasts of sovereign states was both practically significant and legally defensible.

The debate between Grotius and Selden established the fundamental tension in the law of the sea between the principle of freedom and the principle of sovereignty, a tension that has never been fully resolved but has been managed through successive legal frameworks with varying degrees of success. Every major development in the international law of the sea from the seventeenth century to the present can be understood, at one level, as a negotiated compromise between these two principles.

1.3 Cornelius van Bynkershoek and the Cannon-Shot Rule

The practical resolution of the Grotius-Selden debate came not from philosophy but from technology. Cornelius van Bynkershoek, the Dutch jurist who served as President of the Supreme Court of Holland, Zeeland and West Friesland, proposed in his Dissertatio de Dominio Maris of 1702 a practical criterion for determining the extent of maritime sovereignty: the range of a cannon shot from the coast. The principle was expressed in the maxim terrae potestas finitur ubi finitur armorum vis, the power of the land ends where the power of arms ends. This was a brilliantly pragmatic resolution of the theoretical impasse: it grounded the extent of coastal sovereignty in the physical capacity of the coastal state to enforce that sovereignty, which at the time corresponded roughly to the range of shore-based artillery.

The cannon-shot rule was, in its day, both legally innovative and politically satisfying. It provided a determinate criterion for the extent of the territorial sea that was based not on arbitrary assertion but on the actual power of enforcement. It acknowledged the principle of coastal state sovereignty over adjacent waters while preserving the principle of freedom on the high seas beyond the range of coastal armament. And it reflected a fundamentally positivist jurisprudential sensibility: law, on this view, is not merely the expression of abstract principle but the reflection of actual power relations.

The cannon-shot rule was subsequently translated into a specific distance by the Italian jurist Galiani, who in the mid-eighteenth century calculated the range of an average cannon ball at approximately three nautical miles, and proposed this as the standard breadth of the territorial sea. The three-mile rule, as it came to be known, gained widespread acceptance in the practice of states and in the treaties of the eighteenth and nineteenth centuries, though it was never universally adopted and was contested by a number of states, including Scandinavia, which maintained a four-league (approximately twelve nautical mile) claim. The three-mile rule was the dominant norm of customary international maritime law from roughly the mid-eighteenth century to the mid-twentieth century, when the post-war codification effort led by the United Nations began to reshape the legal landscape.

The jurisprudential significance of this development cannot be overstated. The shift from the abstract natural-law framework of Grotius to the instrumentalist, practice-based approach of Bynkershoek represented a fundamental transformation in the philosophy of international law, from naturalism to positivism, from principle to practice, from the ideal to the actual. This epistemological shift would have lasting consequences for the way in which maritime law was made, interpreted, and applied, and it remains relevant to understanding the debates about the interpretation and application of UNCLOS that continue today.

1.4 The Eighteenth and Nineteenth Centuries: Codification, Commerce, and the Law of Nations

The eighteenth century saw the systematic development of international maritime law as part of the broader emergence of the law of nations, the jus gentium, as a distinct body of legal doctrine. Emmerich de Vattel, the Swiss jurist whose Le Droit des Gens of 1758 was perhaps the most influential international law treatise of the era, addressed maritime law within the broader framework of his theory of sovereign equality and reciprocal obligation among states. Vattel argued that states had rights in the seas adjacent to their coasts to the extent necessary for their safety and the defence of their trade, but that the high seas remained free, not because they were incapable of appropriation in theory, but because the common interest of all states in freedom of navigation required that they be treated as free in practice. This was a significant reframing of the Grotian argument: instead of grounding the freedom of the seas in natural law, Vattel grounded it in the mutual interest of states and the emerging consensual framework of international law.

The nineteenth century brought rapid and dramatic changes to the practice of maritime law. The growth of global commerce, the industrial revolution, the expansion of fisheries, the emergence of submarine telegraphic cables, and above all the explosive growth of naval power transformed the sea from a medium of communication and a resource for local communities into the central arena of global economic and military competition. The doctrines of maritime jurisdiction that had been adequate for the early modern period were increasingly strained by these developments.

The law of the sea in this period developed through a combination of customary practice, bilateral and multilateral treaties, and the decisions of prize courts and international arbitral tribunals. The Alabama Claims Arbitration of 1872, which resolved a dispute arising from the American Civil War, was a landmark in the development of international arbitration as a

mechanism for the peaceful resolution of maritime disputes. The Bering Sea Fur-Seals Arbitration of 1893 raised for the first time, in a systematic way, the question of whether states could exercise jurisdiction over the high seas for the purpose of conserving living resources, a question that would become absolutely central to the development of the law of the sea in the twentieth century. The North Sea Fisheries Arbitration of 1910 between Great Britain and the United States dealt with the interpretation of treaty provisions concerning fishing rights in the waters off the coast of Newfoundland, and produced an award of lasting significance for the relationship between treaty law and customary international law in the maritime context.

1.5 The First Hague Codification Conference and its Aftermath

The first systematic attempt to codify the customary international law of the sea through multilateral negotiation took place at the Hague Codification Conference of 1930, convened under the auspices of the League of Nations. The Conference failed, in the sense that it did not produce a binding convention, but it generated an invaluable record of state practice and opinio juris on questions of territorial sea, contiguous zone, and related matters, and it identified the fundamental disagreements among states that would require resolution in any successful codification effort. The failure of 1930 was instructive: it demonstrated that the breadth of the territorial sea was the most contentious issue in international maritime law, that state practice on this question was genuinely diverse, and that any successful codification would require careful political management as well as careful legal drafting.

The period between the two World Wars also saw the emergence of new claims by coastal states to jurisdiction over the resources of their adjacent seas. The most significant of these were the proclamations by the United States in 1945, specifically the Truman Proclamation on the Continental Shelf and the Truman Proclamation on Coastal Fisheries Conservation. The continental shelf proclamation asserted United States jurisdiction and control over the natural resources of the seabed and subsoil of the continental shelf contiguous to the coasts of the United States, while reserving the character of the waters above as high seas. The fisheries conservation proclamation established conservation zones in those areas of the high seas contiguous to the coasts of the United States where fisheries activities had been conducted by United States nationals. These proclamations inaugurated a wave of similar claims by other states and set the stage for the post-war codification effort that would eventually produce the UNCLOS framework.

The Truman Proclamations are jurisprudentially significant for several reasons. First, they represented an assertion of sovereign rights by the most powerful state in the post-war world, and as such carried enormous weight in reshaping customary international law. Second, they introduced the concept of the continental shelf as a basis for maritime jurisdiction, a concept that had no clear antecedent in the traditional law of the territorial sea and contiguous zone. Third, they reflected and reinforced the trend toward the expansion of coastal state jurisdiction over adjacent sea areas and their resources, a trend that would be the dominant dynamic in the development of the law of the sea in the second half of the twentieth century.

CHAPTER 2: THE UNITED NATIONS CODIFICATION EFFORT AND THE MAKING OF UNCLOS

2.1 UNCLOS I and II: The First Geneva Conventions

The United Nations took up the challenge of codifying the law of the sea through the International Law Commission, which began systematic work on the topic in the late 1940s and throughout the 1950s. The first United Nations Conference on the Law of the Sea, known as UNCLOS I, convened in Geneva in 1958, produced four conventions: the Convention on the Territorial Sea and the Contiguous Zone, the Convention on the High Seas, the Convention on Fishing and Conservation of the Living Resources of the High Seas, and the Convention on the Continental Shelf. A fifth instrument, the Optional Protocol on the Compulsory Settlement of Disputes, was also adopted.

The 1958 Geneva Conventions represented a genuine achievement in the codification of customary international maritime law, but they also reflected the limitations and compromises of their historical moment. The Convention on the Territorial Sea and Contiguous Zone codified the concept of the territorial sea, established the right of innocent passage, and defined a contiguous zone extending up to twelve nautical miles from the baseline, but it failed to settle the question of the maximum breadth of the territorial sea, leaving open the fundamental disagreement that had prevented agreement at the 1930 Hague Conference. The Convention on the Continental Shelf adopted the concept developed in the Truman Proclamation and extended it to all coastal states, defining the continental shelf as extending to a depth of two hundred metres or to the limit of exploitability, a criterion that would prove technologically unstable as deep-sea drilling technology advanced. The Convention on Fishing and Conservation of Living Resources addressed the growing international concern about the depletion of fishery stocks, but its mechanisms for cooperation and conservation were widely regarded as inadequate.

The second UNCLOS conference, UNCLOS II, convened in Geneva in 1960, was specifically convened to resolve the question of the breadth of the territorial sea and a related question about the extent of exclusive fishing zones. It also failed to reach agreement, missing the required two-thirds majority by a single vote on a joint United States-Canadian proposal for a six-mile territorial sea combined with a six-mile exclusive fishing zone. This failure confirmed that the question of maritime zones could not be resolved by incremental codification of existing customary law; it required a comprehensive renegotiation of the fundamental allocations of maritime jurisdiction among coastal states, landlocked states, distant-water fishing states, and the international community as a whole.

2.2 The Revolutionary Claims of the 1960s and 1970s: The New States and the Changing Law

The period between UNCLOS II and the commencement of UNCLOS III negotiations was one of extraordinary political and legal turbulence in the law of the sea. The decolonisation wave of the 1950s and 1960s brought a large number of newly independent states into the international community, many of them coastal states with extensive maritime interests and a deep distrust of the existing rules of international maritime law, which they saw, often with considerable

justification, as rules developed by and for the colonial powers. The Group of 77 developing states asserted the principle of permanent sovereignty over natural resources, which in the maritime context meant sovereignty over the fish and hydrocarbons of adjacent seas. A number of Latin American states, led by Chile, Peru, and Ecuador, claimed a two-hundred-mile territorial sea or fishery zone, a claim that generated enormous controversy but proved to be the opening move in a negotiation that would ultimately produce the two-hundred-mile Exclusive Economic Zone concept.

The most philosophically significant development of this period was the speech delivered by Arvid Pardo, the Maltese Ambassador to the United Nations, before the General Assembly in August 1967. Pardo proposed that the seabed and ocean floor beyond the limits of national jurisdiction be declared the common heritage of mankind, to be governed by an international authority for the benefit of all states, especially developing countries. This concept, which Pardo elaborated at length and with great philosophical and legal sophistication, was revolutionary in several respects. It rejected both the freedom-of-the-seas doctrine, which in the deep seabed context had meant freedom for technologically advanced states to exploit mineral resources for their own benefit, and the extension of national sovereignty, which would have produced the same result through a different mechanism. Instead, it proposed a genuinely new legal concept, that some resources belong not to any state, not even to the international community of states in the aggregate, but to mankind as such, including future generations, and that these resources must be governed in accordance with the principle of equity.

The common heritage of mankind concept is philosophically rich and jurisprudentially provocative. It draws on the natural law tradition of Grotius, who had argued that the sea and its resources were not capable of individual appropriation, and extends it to propose a positive regime of collective governance. It resonates with environmental ethics and intergenerational justice theory, which had emerged as significant intellectual movements by the late 1960s. It challenges the state-centric framework of traditional international law by introducing a non-state entity, mankind, as a subject of international legal rights. And it raises profound practical questions about how the interests of all of mankind can be identified, represented, and protected through institutions of international governance.

The common heritage principle was adopted, with modifications, in the 1982 UNCLOS as the governing principle for the Area, defined as the seabed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction. The adoption of this principle was one of the most significant contributions of the UNCLOS negotiations to the development of international law, and it has had lasting implications not only for deep seabed mining but for the broader development of international environmental law and the governance of global commons.

2.3 UNCLOS III: The Decade-Long Negotiation and Its Legal Architecture

The Third United Nations Conference on the Law of the Sea, known as UNCLOS III, was the most ambitious and the most successful multilateral lawmaking effort in the history of international law. It convened its first session in 1973, following preparatory work that had begun in the late 1960s, and concluded its work with the adoption of the Convention on the Law of the Sea in Montego Bay, Jamaica, on 10 December 1982. The Convention was opened for

signature on that date, and ultimately received one hundred and sixty-seven signatures, before entering into force on 16 November 1994. As of the present date, it has been ratified by one hundred and seventy states, including Bangladesh, which ratified in 2001, India, which ratified in 1995, and Myanmar, which ratified in 1996.

The negotiations of UNCLOS III were conducted through an innovative consensus-building methodology that the Conference developed in response to the recognition that a simple majority vote on contentious provisions could produce a convention that would be rejected by the states whose cooperation was most essential to its implementation. The package deal approach, under which the entire Convention would be accepted as a whole or not at all, was fundamental to the success of the negotiations: it allowed each group of states to accept compromises in areas where their interests were less critical in exchange for gains in areas of primary concern. The result was a genuinely comprehensive instrument that attempted to balance the competing interests of coastal states, landlocked states, distant-water fishing states, technologically advanced states, developing states, and the international community as a whole.

The UNCLOS framework allocates maritime jurisdiction through a zonal system of increasing distance from the coast, with the rights and obligations of coastal states varying according to the zone in question. The baseline, from which all maritime zones are measured, is ordinarily the low-water line along the coast, though straight baselines connecting appropriate points may be drawn where the coastline is deeply indented or cut into, or if there is a fringe of islands along the coast in its immediate vicinity. The territorial sea extends up to twelve nautical miles from the baseline, within which the coastal state exercises sovereignty subject to the right of innocent passage by ships of all states. The contiguous zone extends up to twenty-four nautical miles from the baseline, within which the coastal state may exercise control necessary to prevent or punish infringement of its customs, fiscal, immigration, and sanitary laws. The Exclusive Economic Zone extends up to two hundred nautical miles from the baseline, within which the coastal state has sovereign rights for the purpose of exploring, exploiting, conserving, and managing natural resources, as well as jurisdiction over artificial islands, installations, and structures, marine scientific research, and the protection and preservation of the marine environment. The continental shelf, for purposes of international law, extends to the outer edge of the continental margin or to two hundred nautical miles where the margin does not extend that far, within which the coastal state exercises sovereign rights over the natural resources of the seabed and subsoil.

Beyond these zones, the high seas are governed by the principle of freedom, and the Area, the deep seabed beyond national jurisdiction, is governed by the common heritage of mankind principle. The Convention also contains comprehensive provisions on navigation, including transit passage through straits used for international navigation, archipelagic sea-lanes passage, the regime of islands, enclosed and semi-enclosed seas, and the right of access of landlocked states to and from the sea. Part XV of the Convention establishes a comprehensive system for the peaceful settlement of disputes, including the International Tribunal for the Law of the Sea, compulsory arbitration under Annex VII, and special arbitration under Annex VIII.

2.4 The Philosophical and Jurisprudential Foundations of UNCLOS

UNCLOS has been described as the constitution of the oceans, a characterisation that is both apt and illuminating. Like a constitution, it establishes the fundamental framework of rights and obligations that governs the conduct of states in relation to the sea; it creates institutions and procedures for the ongoing interpretation and application of its norms; and it is intended to be comprehensive and enduring, providing the framework within which more specific norms and practices can develop. Like a constitution, it is the product of a political process as much as a legal one, reflecting the balance of power and the distribution of interests among the states that negotiated it, and its interpretation is inevitably influenced by the political context in which it operates.

From a jurisprudential perspective, UNCLOS embodies several distinct and not always perfectly compatible theoretical traditions. The zonal system of maritime jurisdiction reflects a positivist approach to international law: it establishes determinate rules allocating rights and obligations by reference to objective criteria of distance, and it creates the institutional machinery necessary for the enforcement and development of those rules. The common heritage of mankind principle reflects a natural law or justice-based approach: it asserts that some resources belong to all people and that their exploitation must be governed in accordance with the principle of equity rather than simply the power of the exploiting state. The provisions on environmental protection, which are codified primarily in Part XII of the Convention, reflect an emerging ecological approach to international law: they impose positive obligations on states to protect and preserve the marine environment, not merely to refrain from active harm, and they introduce standards of due diligence and environmental impact assessment that have since become central to international environmental law more broadly.

The 2024 ITLOS Advisory Opinion in the Commission of Small Island States case (Case No. 31) has added a profoundly important new dimension to the philosophical architecture of UNCLOS. The Tribunal confirmed that the Convention's provisions on the protection and preservation of the marine environment, particularly in Part XII, must be interpreted in light of contemporary scientific understanding of climate change and its impacts on the ocean. The Tribunal held that anthropogenic greenhouse gas emissions constitute pollution of the marine environment within the meaning of Article 1(1)(4) of UNCLOS, which defines marine pollution broadly as the introduction by humans of substances or energy into the marine environment that results or is likely to result in harm to living resources and marine life, hazards to human health, or hindrance to marine activities. This interpretation, connecting the ancient body of maritime law with the most urgent environmental challenge of the present era, represents a landmark development in legal philosophy as well as doctrine.

The significance of this Advisory Opinion for Bangladesh, a country already experiencing severe coastal erosion, saline intrusion, sea-level rise, and increased cyclonic activity attributable to climate change, cannot be overstated. Bangladesh is both a victim of marine pollution in the most comprehensive sense of that term and, by virtue of its ratification of UNCLOS, a state with due diligence obligations under the Convention. The Advisory Opinion's confirmation that these obligations apply to greenhouse gas emissions creates a framework of international accountability that Bangladesh can invoke against major emitting states, and that, more challengingly, it must address in relation to its own domestic emissions and development policies.

2.5 UNCLOS and the Theory of International Law: Consent, Custom, and Jus Cogens

The legal status and authority of UNCLOS in the theoretical framework of international law deserves careful examination. International law, unlike domestic law, lacks a central legislator; its norms are created primarily through the consent of states, expressed either in treaties or through the formation of customary international law, and they are enforced through a variety of mechanisms that are collectively much weaker than the enforcement mechanisms of domestic legal systems. The authority of UNCLOS must therefore be understood in terms of the theory of international legal obligation.

From a consensualist perspective, UNCLOS is binding on states parties because they have consented to be bound by it through ratification. For states that have not ratified, UNCLOS may nonetheless be relevant as evidence of customary international law in areas where the Convention codifies or has contributed to the formation of custom. The International Court of Justice and other international tribunals have repeatedly held that many of the provisions of UNCLOS reflect customary international law, including the provisions on the continental shelf, the Exclusive Economic Zone, and the freedom of the high seas. This means that even states that have not ratified UNCLOS, most notably the United States, are bound by a substantial portion of its substantive content as a matter of customary law.

From a natural law or jus cogens perspective, some provisions of UNCLOS may be regarded as reflecting peremptory norms of general international law from which no derogation is permitted. The prohibition of slavery at sea, the duty to render assistance to persons in distress, and possibly the common heritage of mankind principle in its application to the deep seabed have been argued to have this character. The jus cogens analysis is, however, controversial in the law of the sea context, and it has not been fully embraced by international tribunals, which have generally been more cautious about invoking peremptory norms in the maritime context than in the human rights context.

H.L.A. Hart's positivist theory of law, developed in The Concept of Law published in 1961, poses an interesting challenge to the authority of international law generally and of UNCLOS in particular. For Hart, a legal system requires a rule of recognition that establishes the criteria for identifying valid legal norms, and this rule of recognition is typically anchored in the practice of officials within a centralised legal system. International law, on Hart's account, lacks these structural features and therefore occupies an ambiguous position between genuine law and a form of social morality or positive morality. The response to this Hartian challenge, most fully developed by the legal positivist Thomas Franck in his concept of legitimacy in international law, is that the international legal system achieves compliance not through the fear of centralised enforcement but through the perception of legitimacy generated by the fairness of its rules, the consistency of their application, and the coherence of the normative framework within which they operate. UNCLOS, on this view, achieves a high degree of compliance because it is perceived as a legitimate framework, the product of genuine multilateral negotiation, responsive to the interests of a wide range of states, and consistent in its application through the jurisprudence of ITLOS and other international tribunals.

CHAPTER 3: THE GEOGRAPHY AND GEOPOLITICS OF THE BAY OF BENGAL - BANGLADESH'S MARITIME CONTEXT

3.1 The Bay of Bengal: Physical Geography and Strategic Significance

The Bay of Bengal is the largest bay in the world by area, covering approximately 2.17 million square kilometres of the northeastern Indian Ocean. It is bounded on the north and northeast by the coasts of Bangladesh and the Indian states of West Bengal, Odisha, and Andhra Pradesh, and by the coasts of Myanmar; on the east by the coasts of Myanmar, Thailand, and the Malay Peninsula, including the Andaman and Nicobar Islands of India; and on the west by the coasts of Sri Lanka and the Indian states of Tamil Nadu, Andhra Pradesh, and Odisha. The bay connects to the wider Indian Ocean through the Palk Strait between India and Sri Lanka and through the waters south of the Andaman and Nicobar Islands.

From a strategic and economic perspective, the Bay of Bengal is one of the most important maritime spaces in the world. It is the central sea of South and Southeast Asia, through which pass some of the most significant trade routes connecting the Indian subcontinent, East and Southeast Asia, and the Middle East. The Malacca Strait, which connects the Bay of Bengal to the South China Sea, is the world's busiest maritime chokepoint, through which approximately one-third of global trade and eighty percent of the energy imports of China, Japan, and South Korea pass. The bay is rich in hydrocarbons, particularly natural gas, with significant reserves in the offshore areas of Bangladesh, India, and Myanmar. It contains some of the world's most productive fisheries, supporting the livelihoods of hundreds of millions of people across the littoral states. And it is increasingly the scene of significant geopolitical competition among the major powers, including India, China, and the United States, each of which has significant strategic interests in the region.

The Bay of Bengal is also one of the most climate-vulnerable marine environments in the world. It is the origin and breeding ground of the most intense tropical cyclones in the world, including the cyclones that have periodically devastated the coastal areas of Bangladesh. Sea-level rise driven by anthropogenic climate change poses an existential threat to the low-lying coastal areas and islands of Bangladesh, which are home to tens of millions of people. Saline intrusion into coastal groundwater and agricultural land is already reducing agricultural productivity and forcing population displacement. Ocean warming is altering the distribution and abundance of fish stocks, with severe implications for food security and the livelihoods of coastal fishing communities. The Bay of Bengal is, in short, not only a space of economic opportunity but a space of profound ecological crisis, and the law of the sea must be understood in this context.

3.2 Bangladesh's Coastal Geography: The Delta, the Baseline, and the Legal Implications

Bangladesh is a low-lying, predominantly deltaic country situated at the confluence of the Ganges, the Brahmaputra, and the Meghna rivers, which together discharge the largest volume of fresh water into the ocean of any river system in the world. The coast of Bangladesh extends for approximately 710 kilometres along the Bay of Bengal, but this figure is somewhat misleading because the coastline is not a simple linear boundary; it is an extraordinarily complex and dynamic system of tidal channels, estuaries, mudflats, sandbars, islands, and mangrove forests

that is in constant flux due to the deposition of sediment, the action of tides and currents, and the impacts of cyclones and floods.

The Sundarbans, the world's largest mangrove forest, straddling the border between Bangladesh and the Indian state of West Bengal, occupies a large portion of the southwestern coast of Bangladesh. This ecologically unique and legally significant environment raises complex questions about the legal status of mangrove areas in relation to baselines, territorial sea measurement, and environmental jurisdiction. The Sundarbans is a UNESCO World Heritage Site, a Ramsar wetland of international importance, and a critical habitat for the Bengal tiger and numerous other species. Its legal governance involves an intersection of international environmental law, maritime law, bilateral treaty obligations between Bangladesh and India, and domestic legislation of both countries.

The low-water baseline, from which Bangladesh measures its territorial sea and other maritime zones, is complicated by the dynamic character of the coast. The low-water line along a deltaic coast changes constantly as rivers deposit new sediment, as tides advance and recede, and as the delta subsides and erodes. The Chittagong coast in the southeast is somewhat more stable, being backed by the Chittagong Hill Tracts, but the central and southwestern coasts are among the most geomorphologically dynamic coastal environments on earth. This creates significant legal uncertainty about the precise location of the baseline and therefore the precise extent of Bangladesh's maritime zones.

The question of the baseline was central to Bangladesh's maritime boundary disputes with India and Myanmar, and the resolution of those disputes by international arbitration has provided a legally authoritative definition of Bangladesh's maritime entitlements, but it has not resolved all of the underlying geomorphological uncertainties. As the coast continues to change, questions about the location of the baseline and its implications for maritime jurisdiction will continue to arise, and the domestic legal framework must be adequate to address these questions.

One of the most sensitive baseline-related issues is the status of South Talpatty Island, also known as New Moore Island in India, which emerged from the Bay of Bengal in the aftermath of the 1970 Bhola cyclone as a result of sediment deposition at the mouth of the Hariabhanga River. The island was the subject of a territorial dispute between Bangladesh and India, both of which claimed it as within their respective territorial waters. The dispute became moot when the island was submerged by rising sea levels in 2010, but it had illustrated, in a vivid and concrete way, the profound legal implications of geomorphological change in a deltaic coastal environment. As sea levels continue to rise, the question of what happens to the baseline and therefore to the extent of maritime zones when coastal land is permanently submerged is becoming one of the most urgent questions in the law of the sea.

3.3 The Historical Background of Bangladesh's Maritime Claims

The maritime history of the Bengal coast is long and rich. The ancient Kingdoms of Bengal had extensive maritime trade with Southeast Asia, the Middle East, and East Africa, and the Bay of Bengal was a central arena of commercial exchange for many centuries before the advent of European colonialism. The Sultanate of Bengal, which ruled a substantial portion of present-day

Bangladesh in the fourteenth and fifteenth centuries, controlled the port of Chittagong, which was a major centre of maritime trade. The Mughal Empire, which consolidated its control over Bengal in the late sixteenth and seventeenth centuries, maintained a significant maritime administration, and the Bay of Bengal trade was a major source of revenue.

The Portuguese arrived at Chittagong in the early sixteenth century and established a trading presence that persisted for many decades, contributing to the development of the port and to the demographic and cultural complexity of the coastal region. The Dutch, the French, and above all the English East India Company subsequently established commercial presences at Chittagong and other coastal locations. The formal incorporation of Bengal into the British Indian Empire following the Battle of Plassey in 1757 and the diwani grant of 1765 brought the maritime resources and jurisdiction of the Bengal coast under British colonial administration.

Under British colonial rule, the legal framework governing the maritime areas adjacent to Bengal was the law of the British Crown and the East India Company, supplemented by treaty arrangements with other colonial powers. The partition of British India in 1947 created the independent states of India and the Dominion of Pakistan, and the province of East Bengal, along with Sylhet, became part of Pakistan as the territory later known as East Pakistan. The maritime areas adjacent to East Pakistan were now governed by Pakistani law and administered by the Pakistani state, whose capital and centre of power were in West Pakistan, thousands of kilometres away on the other side of the Indian subcontinent.

The liberation war of 1971, in which Bangladesh achieved independence from Pakistan, was not fought on the sea, but the sea was significantly involved in the conflict. The Indian Navy's blockade of the ports of East Pakistan, particularly the port of Chittagong, was a significant factor in the military and economic pressure on Pakistani forces that contributed to the surrender of 16 December 1971. The newly independent state of Bangladesh thus emerged from its founding moment with a recognition that the sea, and maritime power, were significant dimensions of its national security and economic development.

3.4 The First Maritime Legislation: The Territorial Waters and Maritime Zones Act of 1974

In the early years of Bangladeshi independence, the priority of the new government, led by Sheikh Mujibur Rahman, was inevitably focused on the enormous challenges of reconstruction, economic development, and the establishment of basic state institutions. The maritime domain was not initially a primary legislative priority. The first constitutional arrangement of Bangladesh, the Constitution of 1972, does not contain specific provisions addressing maritime jurisdiction, though the constitutional framework for the exercise of sovereignty over national territory and resources is relevant.

The first legislation specifically addressing Bangladesh's maritime jurisdiction was the Territorial Waters and Maritime Zones Act of 1974, enacted by the Parliament of Bangladesh on 14 February 1974. This Act was a foundational instrument, establishing the basic framework for Bangladesh's claims to territorial sea, contiguous zone, exclusive economic zone, continental shelf, and historic waters. It was enacted in the context of a rapidly changing international

maritime law environment, just one year after the commencement of the UNCLOS III negotiations, and it reflected the views and interests of developing coastal states that were actively advocating at those negotiations for an expanded framework of coastal state jurisdiction over adjacent maritime resources.

The 1974 Act was remarkable in several respects. It claimed a territorial sea of twelve nautical miles, a contiguous zone of eighteen nautical miles, an exclusive economic zone of two hundred nautical miles, and a continental shelf to the limits of the natural prolongation of Bangladesh's land territory under the sea. The claim to a two-hundred-mile EEZ was made before the adoption of UNCLOS in 1982, anticipating by nearly a decade the international legal framework that would formally recognise this zone. This reflected Bangladesh's alignment with the Group of 77 developing states' position in the UNCLOS III negotiations, and it demonstrated a degree of legal creativity and forward-looking advocacy on the part of the newly independent state's diplomatic and legal establishment.

However, the 1974 Act also contained significant deficiencies. Its provisions on the EEZ and continental shelf were, for their time, relatively brief and did not address many of the detailed questions of rights, obligations, and enforcement that would be addressed in UNCLOS. The Act's provisions on pollution control, environmental protection, and fisheries management were rudimentary. Most importantly, the Act did not specifically address the question of maritime boundary delimitation with neighbouring states, which would prove to be the most contentious and legally complex aspect of Bangladesh's maritime legal situation.

The relationship between the 1974 Act and the subsequent UNCLOS framework is complex and has been a source of legal difficulty. The Act predates UNCLOS and was drafted in accordance with the developing law of the sea as it stood in 1974, which differed in a number of respects from the law as codified in UNCLOS in 1982. After Bangladesh's ratification of UNCLOS in 2001, there was an inconsistency between the domestic law as expressed in the 1974 Act and Bangladesh's international obligations under UNCLOS, and this inconsistency needed to be addressed through legislative amendment.

The amendment was eventually made through the Territorial Waters and Maritime Zones (Amendment) Act of 2021, which is discussed in detail later in this Part. But the nearly two-decade gap between ratification and domestic legal amendment is itself a commentary on the inadequacy of Bangladesh's institutional capacity for maritime law reform, and it is a theme to which this commentary will return repeatedly.

CHAPTER 4: THE MARITIME BOUNDARY DISPUTES AND THEIR RESOLUTION - A LEGAL AND JURISPRUDENTIAL ANALYSIS

4.1 The Structural Problem: Bangladesh in a Concave Bay

Bangladesh's maritime boundary situation was, from the early years of independence, recognised as particularly difficult. The difficulty arose from the nation's geographic position at the head of

the Bay of Bengal, a concave configuration that created a fundamental problem for the application of the equidistance principle in boundary delimitation. If the equidistance method, the technique of drawing the boundary at equal distances from the respective coastlines of two states, were applied literally, it would have produced boundaries that enclosed Bangladesh within a small triangular area of sea, cutting it off from the wider Bay of Bengal and denying it access to the two-hundred-mile EEZ to which it was entitled as a matter of principle.

The mathematical reason for this problem is straightforward. The equidistance line between Bangladesh and Myanmar to the east would have run almost directly westward from the coast before turning northward, because the Myanmarese coastline runs roughly north-south in this area while the Bangladeshi coast faces generally south. The equidistance line between Bangladesh and India to the west would have had a similar effect, running almost directly eastward. The intersection of these two equidistance lines would have produced an enclosing triangular boundary that would have left Bangladesh with far less sea area than a proportional share of the Bay of Bengal would suggest it was entitled to.

This situation was the subject of extensive academic and legal analysis from the mid-1970s onward. Bangladeshi legal scholars and government officials argued that the strict application of equidistance in this context would produce an inequitable result that violated the fundamental principle of the law of the sea that every coastal state is entitled to a maritime zone proportionate to its coastline and its position. They argued that the principle of equitable delimitation, which had been developed by the International Court of Justice in the North Sea Continental Shelf cases of 1969 and which was incorporated in Articles 74 and 83 of UNCLOS as the governing principle for EEZ and continental shelf delimitation, required the adjustment of the equidistance line to take account of the special circumstances of Bangladesh's concave geographic position.

The North Sea Continental Shelf cases, decided by the International Court of Justice in 1969, established that the principle of natural prolongation of the continental shelf, combined with the principle of equitable apportionment, required the adjustment of equidistance boundaries in circumstances where their strict application would produce inequitable results. The cases involved Germany's dispute with Denmark and the Netherlands over the delimitation of the continental shelf in the North Sea, and Germany's situation bore some geographical similarity to Bangladesh's: Germany occupied a concave position on the North Sea coast, and the application of equidistance would have denied it a proportionate share of the shelf. The Court's decision in favour of equitable delimitation, which required the States concerned to negotiate in accordance with equitable principles taking account of relevant circumstances, was a landmark in the development of international maritime boundary law.

Subsequently, in the Tunisia-Libya Continental Shelf case of 1982, the Libya-Malta Continental Shelf case of 1985, and the Gulf of Maine case of 1984, the ICJ and the Chamber of the Court further developed the doctrine of equitable delimitation, elaborating the relevant circumstances that could justify departure from strict equidistance and the relationship between the equidistance method and the equitable result. This body of case law was directly relevant to Bangladesh's maritime boundary claims, and it was extensively cited by Bangladeshi legal representatives in the arbitration proceedings that eventually resolved the disputes.

4.2 The Bangladesh-Myanmar Dispute: ITLOS Case No. 16

Bangladesh and Myanmar had been unable to reach agreement on the delimitation of their maritime boundary through bilateral negotiations that had continued, with interruptions, for many years. In December 2009, Bangladesh filed a written statement with the International Tribunal for the Law of the Sea, initiating dispute settlement proceedings under Part XV and Annex VII of UNCLOS. Myanmar agreed to the Tribunal's jurisdiction, and the case proceeded as ITLOS Case No. 16, the first case involving maritime boundary delimitation to be brought before the Tribunal.

The Tribunal's judgment, delivered on 14 March 2012, was a landmark in the jurisprudence of the law of the sea. It was the first time ITLOS had dealt with maritime boundary delimitation, and it confirmed and developed the body of law on equitable delimitation that had been established by the ICJ in the North Sea Continental Shelf cases and their successors.

The Tribunal addressed three main issues: the delimitation of the territorial sea, the delimitation of the EEZ and continental shelf within 200 nautical miles, and the delimitation of the continental shelf beyond 200 nautical miles. On the territorial sea, the Tribunal applied the equidistance method as required by Article 15 of UNCLOS, identifying the starting point of the boundary and adjusting the equidistance line to take account of a small island, St. Martin's Island, belonging to Bangladesh. The treatment of St. Martin's Island was legally significant: the Tribunal declined to give the island full weight as a basepoint for the equidistance line, holding that to do so would create a significant deflection in the boundary that would distort the overall result. This decision reflected a broader principle in maritime boundary delimitation that small islands may be given less than full effect in the equidistance calculation where doing so is necessary to achieve an equitable result.

On the EEZ and continental shelf within 200 nautical miles, the Tribunal applied the equidistance-relevant circumstances methodology. It began by constructing a provisional equidistance line and then examined whether relevant circumstances required its adjustment. The Tribunal found that the concavity of Bangladesh's coast and the resulting cutoff effect of strict equidistance was a relevant circumstance justifying significant adjustment of the provisional line in Bangladesh's favour. The adjusted boundary awarded Bangladesh a substantially larger maritime area in the EEZ zone than it would have received under strict equidistance.

The most novel and technically challenging aspect of the case concerned the continental shelf beyond 200 nautical miles. Bangladesh claimed that its continental shelf extended beyond the 200-mile EEZ limit, up to the natural prolongation of its land territory under the sea, and requested delimitation of the boundary in this outer shelf area as well. Myanmar argued that ITLOS lacked jurisdiction to delimit the outer continental shelf pending the submission and consideration of recommendations by the Commission on the Limits of the Continental Shelf (CLCS) established under Annex II of UNCLOS. The Tribunal rejected this jurisdictional objection, holding that it had jurisdiction to delimit the outer continental shelf between two states even before the CLCS had made its recommendations, because the delimitation of boundaries between states was a judicial function distinct from the delineation of the outer limits of the shelf. This holding was jurisprudentially significant, and somewhat controversial, as it engaged

the boundary between the judicial function of ITLOS and the scientific-technical advisory function of the CLCS.

On the merits of the outer continental shelf delimitation, the Tribunal held that both Bangladesh and Myanmar were entitled to a continental shelf beyond 200 nautical miles in the relevant area, and proceeded to delimit the boundary between their respective outer continental shelf entitlements. This was the first time any international court or tribunal had delimited an outer continental shelf boundary, and the decision broke new ground in a technically and legally complex area.

The overall result of the ITLOS judgment was substantially favourable to Bangladesh. Bangladesh received an EEZ and continental shelf entitlement that was significantly larger than it would have received under strict equidistance, reflecting the successful application of the equitable delimitation principle to the specific circumstances of Bangladesh's concave geographic position.

4.3 The Bangladesh-India Dispute: PCA Arbitration

Following the conclusion of the ITLOS proceedings against Myanmar, Bangladesh proceeded with its arbitration against India under Article 287(c) and Annex VII of UNCLOS, before a five-member arbitral tribunal constituted under the auspices of the Permanent Court of Arbitration (PCA) in The Hague. The arbitration had been initiated in October 2009, simultaneously with the ITLOS proceedings against Myanmar, and proceeded in parallel with those proceedings.

The Bangladesh-India arbitration raised similar issues to the Bangladesh-Myanmar case: the delimitation of the territorial sea, the EEZ, and the continental shelf. But it also involved additional complications, most notably the question of the status of a small group of islands and the precise location of the baseline in certain areas. The arbitral proceedings were lengthy and technically complex, involving extensive expert testimony on matters of hydrography, geomorphology, and sedimentology, as well as legal argument on the applicable principles of maritime boundary delimitation.

The arbitral award, delivered on 7 July 2014, was, like the ITLOS judgment in the Myanmar case, substantially favourable to Bangladesh. The tribunal applied the same equidistance-relevant circumstances methodology as the ITLOS tribunal and similarly found that the concavity of Bangladesh's coast justified adjustment of the provisional equidistance line in Bangladesh's favour. The tribunal also addressed the question of the outer continental shelf, following the approach established by ITLOS in the Myanmar case, and delimited the outer continental shelf boundary between Bangladesh and India.

The 2014 PCA award did, however, create a complication that has come to be referred to as the "grey area" problem, a situation in which the area of sea between the EEZ boundary and the outer continental shelf boundary creates a zone where Bangladesh has continental shelf rights in the seabed but India has EEZ rights in the water column above. This grey area, which exists because the delimitation of the EEZ boundary and the delimitation of the outer continental shelf boundary were based on somewhat different equitable calculations, presents complex practical

challenges for resource exploitation, environmental regulation, and maritime security, and it remains an unresolved issue in the bilateral relationship between Bangladesh and India.

4.4 The Legal and Jurisprudential Significance of the Two Awards

Considered together, the ITLOS judgment of 2012 and the PCA award of 2014 represent a landmark in the development of international maritime boundary law and in Bangladesh's assertion of its maritime rights. Several aspects of their legal and jurisprudential significance deserve careful analysis.

First, the two awards confirmed and further developed the principle of equitable delimitation as the governing norm for EEZ and continental shelf boundaries under UNCLOS. They elaborated the equidistance-relevant circumstances methodology, which had been established in the ICJ's case law, and applied it in a new geographic context, that of a concave bay, in a manner that provides guidance for future disputes involving similar geographic configurations. The awards are now regularly cited in the law of maritime boundary delimitation, and they have contributed significantly to the jurisprudential development of this field.

Second, the treatment of St. Martin's Island in the ITLOS judgment raised important questions about the status of small islands in maritime boundary delimitation, questions that have been addressed in subsequent cases and that remain theoretically significant. UNCLOS Article 121 provides that islands generate the same maritime zones as other land territory, but Article 121(3) provides that rocks that cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf. The line between an island and a rock is not always clear, and the question of how much weight to give to small islands in boundary delimitation calculations is one of the most contested issues in contemporary maritime boundary law.

Third, the outer continental shelf delimitation in both cases represented a significant development in ITLOS and PCA jurisprudence, establishing that international tribunals have jurisdiction to delimit outer continental shelf boundaries between states and elaborating the legal framework within which such delimitation is to be conducted. The interaction between the judicial delimitation function and the CLCS scientific-advisory function continues to be the subject of scholarly debate, but the two awards established the principle that judicial delimitation can proceed in advance of CLCS recommendations where a boundary dispute exists between two states.

Fourth, from a purely quantitative perspective, the two awards added approximately 105,496 square kilometres of sea area to Bangladesh's maritime territory, beyond the 13,317 square kilometres of internal waters that Bangladesh had previously recognised as its own. Bangladesh's total maritime area is now approximately 118,813 square kilometres, which is significantly larger than many people had expected and which is comparable to, or larger than, the maritime areas of many small island states. This outcome was the result of effective international legal advocacy by Bangladesh's legal team, skilled diplomacy, and the correct application of the equitable delimitation principle, and it stands as a testament to the effectiveness of the international legal system for the peaceful resolution of maritime disputes.

4.5 Unresolved Issues and the Grey Area Problem

The successful resolution of Bangladesh's maritime boundary disputes through international arbitration has been celebrated as a major achievement, and rightly so. But it would be intellectually dishonest to suggest that the awards resolved all outstanding issues. Several significant legal and practical problems remain.

The grey area created by the Bangladesh-India PCA award presents the most immediate and practically significant challenge. In this area, Bangladesh has rights over the continental shelf seabed, but India has EEZ rights in the superjacent water column. This creates a complex situation for resource extraction, particularly for hydrocarbon development, which involves activities both in the water column and on the seabed. It also creates jurisdictional complexity for environmental regulation, since a spill from a seabed drilling operation would affect both the seabed and the water column, which are governed by different legal regimes under the two different boundaries. The 2021 amendment to Bangladesh's Territorial Waters and Maritime Zones Act does not adequately address this grey area situation.

The question of the outer limits of Bangladesh's continental shelf in areas not covered by the two boundary awards remains to be definitively established. Bangladesh submitted its preliminary information to the Commission on the Limits of the Continental Shelf in 2009 and made a formal submission in 2011. The CLCS has not yet issued its final recommendations on Bangladesh's submission, and the outer limits of the shelf remain formally undetermined pending those recommendations. This creates ongoing legal uncertainty about the extent of Bangladesh's rights in the outer continental shelf area.

The baseline question also remains a source of ongoing legal uncertainty. The baseline from which Bangladesh measures its maritime zones is the ordinary low-water baseline, supplemented by straight baselines in certain areas of the coast. But as the delta continues to evolve, as sea levels rise, and as the effects of climate change alter the geomorphology of the coast, questions about the location of the baseline and its implications for the extent of Bangladesh's maritime zones will continue to arise. The domestic legal framework does not contain adequate mechanisms for the regular review and updating of the baseline, and this is a significant lacuna in the legal architecture.

The implications of South Talpatty's submergence for maritime boundary delimitation and for the theory of baselines under international law deserve more sustained analysis than they have received. The submergence of a feature that was the subject of a bilateral territorial dispute illustrates the broader problem of the legal status of low-lying coastal features in a world of rising sea levels. UNCLOS Article 121 provides a framework for the legal treatment of islands and rocks, but it does not address the situation of features that were once above water but have become permanently submerged. The International Law Commission is currently engaged in a study of sea-level rise and international law, and its work in this area will have significant implications for Bangladesh. This is an area where Bangladesh should be actively engaged in the international legal discourse.

CHAPTER 5: THE TERRITORIAL WATERS AND MARITIME ZONES (AMENDMENT) ACT OF 2021 - A CRITICAL COMMENTARY

5.1 The Road to the 2021 Amendment: Twenty Years of Legislative Inertia and the UNCLOS Compliance Gap

Bangladesh ratified UNCLOS in 2001. From the moment of ratification, there was a tension between Bangladesh's international legal obligations under the Convention and the provisions of the domestic Territorial Waters and Maritime Zones Act of 1974, which had been drafted before UNCLOS was adopted and which differed from UNCLOS in a number of significant respects. This compliance gap was identified by legal scholars and government officials, and proposals for legislative reform were periodically advanced. But for nearly two decades, no comprehensive amendment was enacted. This legislative inertia was the product of multiple factors: the competing demands on the legislative agenda, the technical complexity of maritime law reform, the relative lack of institutional capacity in the maritime legal field, and the practical reality that the most pressing maritime legal issues were being addressed through international arbitration rather than domestic legislation.

The successful conclusion of the ITLOS proceedings in 2012 and the PCA arbitration in 2014 gave Bangladesh a defined maritime territory and heightened interest in the legislative framework for its governance and exploitation. The government's articulation of a blue economy strategy, aiming to harness the maritime resources of Bangladesh's newly confirmed EEZ for economic development, further underscored the need for a comprehensive and up-to-date maritime legal framework. The Territorial Waters and Maritime Zones (Amendment) Act of 2021 was the result of this combination of international legal success, strategic ambition, and the recognition of legislative inadequacy.

The 2021 Amendment Act was passed by the Parliament of Bangladesh and received presidential assent in January 2022. It represented a comprehensive overhaul of the 1974 Act, bringing the domestic legal framework into substantive conformity with UNCLOS in most of its major respects. The following sections provide a detailed critical commentary on the specific provisions of the 2021 Act.

5.2 The Territorial Sea Provisions

The 2021 Act confirms Bangladesh's territorial sea at twelve nautical miles from the baseline, in conformity with Articles 3 and 15 of UNCLOS. This is consistent with the 1974 Act's claim and with the international standard established by UNCLOS. The Act also codifies the right of innocent passage through the territorial sea, in accordance with Articles 17 to 32 of UNCLOS. These provisions are broadly consistent with UNCLOS standards, though some commentators have noted that the domestic law's treatment of the conditions for the suspension of innocent passage is not fully elaborated and could benefit from more detailed legislative guidance.

A significant improvement in the 2021 Act, compared to the 1974 original, is the provision on baselines. The Act now specifically authorises the drawing of straight baselines connecting appropriate points of the coast and the outer points of islands and reefs in accordance with

UNCLOS Article 7. The Act also provides for the establishment of bay closing lines and the designation of historic waters, reflecting provisions of UNCLOS and customary international maritime law. These provisions are important for the practical administration of Bangladesh's territorial sea, though the Act does not specify the procedures by which baselines are to be reviewed and updated as the coastline changes, a lacuna that, as noted above, is a significant concern.

The enforcement provisions of the territorial sea chapter have been strengthened compared to the 1974 Act. The 2021 Act provides for the enforcement of Bangladesh's laws and regulations within the territorial sea on matters including customs, fiscal regulations, immigration, and sanitary regulations, in accordance with the contiguous zone provisions of UNCLOS. It also provides for the enforcement of environmental regulations and the prevention of marine pollution, though as discussed below, the environmental enforcement provisions are still not fully adequate to the demands of the situation.

5.3 The Exclusive Economic Zone Provisions

The EEZ provisions of the 2021 Act are its most extensive and most significant component, reflecting the fact that the EEZ is Bangladesh's most important maritime zone in economic terms, containing the vast majority of the commercial fish stocks, the hydrocarbon resources, and the other natural resources that the blue economy strategy aims to exploit.

The Act confirms Bangladesh's EEZ at two hundred nautical miles from the baseline, in conformity with UNCLOS Article 57. It vests in the government of Bangladesh the sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone. It also provides for Bangladesh's jurisdiction with respect to artificial islands, installations, and structures, marine scientific research, and the protection and preservation of the marine environment, in conformity with Articles 60, 246, and 56(1)(b)(iii) of UNCLOS.

The Act's provisions on the freedom of navigation, overflight, and the laying of submarine cables and pipelines within the EEZ are consistent with UNCLOS Articles 58 and 79. These provisions are important for Bangladesh's relationship with the international community, since they confirm that Bangladesh accepts the rights of other states in the EEZ consistent with international law. The balance between coastal state sovereign rights and third-state freedoms in the EEZ zone is one of the most complex and politically sensitive issues in the law of the sea, and the Act's formulation is broadly consistent with the UNCLOS framework.

One significant gap in the 2021 Act's EEZ provisions is the treatment of enforcement. UNCLOS Article 73 provides that the coastal state may, in the exercise of its sovereign rights to explore, exploit, conserve, and manage the living resources in the EEZ, take such measures, including boarding, inspection, arrest, and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention. The 2021 Act provides enforcement powers in general terms but does not specify in detail the procedures and standards for boarding, inspection, and arrest of vessels within the EEZ. This is a significant

practical gap, since the enforcement of fisheries regulations in the EEZ is one of the most operationally challenging aspects of maritime governance, and it is an area where more detailed legislative guidance is needed.

The Act also does not fully address the question of the rights of other states in relation to highly migratory species in Bangladesh's EEZ. UNCLOS Article 64 requires coastal states to cooperate with other states in ensuring the conservation and promoting the objective of optimum utilisation of highly migratory species throughout the region, both within and beyond the EEZ. The management of tuna and other highly migratory species in the Bay of Bengal is a matter of significant regional concern, and Bangladesh's domestic legal framework does not fully reflect its obligations in this regard.

5.4 The Continental Shelf Provisions

Sections 7, 7A, and 7B of the 2021 Act specifically address the continental shelf, in a significant expansion compared to the 1974 Act's treatment of this zone. The Act confirms Bangladesh's sovereign rights over the continental shelf for the purposes of exploring it and exploiting its natural resources, in conformity with UNCLOS Article 77. It provides for Bangladesh's jurisdiction over artificial islands, installations, and structures on the continental shelf, and for the authorisation and regulation of their construction, operation, and maintenance. These provisions are necessary for the development of offshore hydrocarbon resources in Bangladesh's continental shelf area.

The Act also addresses the outer continental shelf, reflecting Bangladesh's claim to a continental shelf extending beyond the 200-mile EEZ limit. This is consistent with UNCLOS Article 76, which provides for the extension of the continental shelf to the outer edge of the continental margin where this extends beyond 200 nautical miles. The Act notes that the outer limits of the continental shelf are to be determined in accordance with UNCLOS Article 76 and on the basis of the recommendations of the CLCS.

However, the continental shelf provisions of the 2021 Act do not adequately address the grey area problem identified above. There is no provision specifically addressing the legal regime applicable in the area where Bangladesh has continental shelf rights in the seabed but India has EEZ rights in the superjacent water column. This is a significant lacuna, and it creates practical legal uncertainty that could inhibit both resource development and environmental governance in the affected area. A comprehensive maritime law reform should address this problem explicitly, either through bilateral agreement with India or through domestic legislative provision.

5.5 Marine Pollution and Environmental Provisions: The Critical Gaps

The environmental provisions of the 2021 Act have been significantly expanded compared to the 1974 original, reflecting the growing importance of marine environmental protection in the international legal framework and in Bangladesh's national interests. The Act now includes provisions on the prevention, reduction, and control of marine pollution, in conformity with Part XII of UNCLOS. It provides for Bangladesh's right to enforce its environmental laws and regulations in the territorial sea, EEZ, and continental shelf areas.

However, there are several critical gaps in the environmental provisions of the 2021 Act that this commentary must address frankly. The Act does not define what constitutes marine pollution under domestic law, leaving this determination to administrative discretion in a manner that is inconsistent with the specificity required by effective environmental governance. The Act does not establish a specific regulatory framework for the authorisation and control of marine scientific research, despite UNCLOS Part XIII's detailed provisions in this regard. It does not contain specific provisions on the prevention of pollution from vessels, from seabed activities, from dumping, or from land-based sources, which are the four main categories of marine pollution addressed by UNCLOS Part XII. And it does not create the institutional infrastructure, including specialised marine environmental agencies, monitoring systems, and enforcement mechanisms, necessary to give practical effect to its general environmental protection provisions.

The 2024 ITLOS Advisory Opinion on climate change has added a new dimension of urgency to Bangladesh's marine environmental governance obligations. The Tribunal confirmed that states have a due diligence obligation under UNCLOS to take all necessary measures to prevent, reduce, and control marine pollution caused by anthropogenic greenhouse gas emissions. For Bangladesh, this means that domestic maritime law must address climate change mitigation and adaptation in the marine context, not merely the traditional categories of marine pollution from oil spills, sewage, and industrial discharges. The 2021 Act makes no reference to climate change, greenhouse gas emissions, or the obligations confirmed by the 2024 Advisory Opinion, and this is a gap that must be addressed in a future comprehensive reform.

The Frontiers journal publication of August 2025 by Deng and colleagues on the ITLOS Advisory Opinion No. 31 and the doctrine of necessity inference makes clear that the 2024 opinion fundamentally reconfigures international climate governance frameworks, requiring states to deploy their best efforts under the highest available standards to prevent marine pollution through greenhouse gas emissions. Bangladesh, as a small island-adjacent developing state and a country profoundly vulnerable to the effects of climate change, has both a strong interest in the enforcement of these obligations against major emitting states and an obligation to ensure that its own domestic framework reflects its due diligence duties.

5.6 Fisheries Provisions: A Continuing Inadequacy

The fisheries sector is, from an economic and social perspective, the most important single dimension of Bangladesh's maritime interests. The Bay of Bengal contains extraordinarily rich marine biodiversity, with approximately 1,093 marine species documented, including 457 fish species in Bangladesh's EEZ alone. The marine fisheries sector employs millions of Bangladeshis directly and indirectly, contributes significantly to export earnings and food security, and is of profound social importance to coastal communities whose identity and livelihood are bound up with the sea.

Despite this importance, Bangladesh's domestic fisheries law is widely regarded as inadequate to the demands of sustainable management in the twenty-first century. The Marine Fisheries Ordinance of 1983 remains the principal domestic legislation governing marine fisheries, but it was enacted before the full UNCLOS framework was in place and before the development of modern fisheries management science, including the concepts of maximum sustainable yield,

ecosystem-based management, and adaptive management. The Ordinance has been amended on a number of occasions, but it has not been comprehensively reformed to reflect the current state of international fisheries law and management science.

The 2021 Amendment to the Territorial Waters and Maritime Zones Act addresses fisheries only in general terms, confirming Bangladesh's sovereign rights over fisheries in the EEZ and the continental shelf but not establishing the detailed regulatory framework that effective fisheries management requires. There is no provision in the 2021 Act for fisheries management plans, stock assessment requirements, catch limits, licensing and monitoring systems, or the implementation of Bangladesh's obligations under UNCLOS Article 61, which requires the coastal state to ensure that the maintenance of the living resources in the EEZ is not endangered by over-exploitation, and Article 62, which requires the coastal state to promote the objective of optimum utilisation of living resources in the EEZ.

The situation is compounded by the problem of illegal, unreported, and unregulated (IUU) fishing, which is a major concern in the Bay of Bengal. Foreign fishing vessels, particularly from India, Myanmar, and Southeast Asian countries, are known to operate in Bangladesh's EEZ in violation of Bangladesh's fishing regulations. The practical capacity of Bangladesh's navy and coast guard to detect, monitor, and apprehend IUU fishing vessels in the EEZ is limited, and the legal framework for prosecution and penalty is not fully adequate to deter this activity. A comprehensive fisheries law reform, aligned with the FAO Code of Conduct for Responsible Fisheries and the IPOA-IUU, and integrated with the broader maritime zones legal framework, is urgently needed.

5.7 Hydrocarbon and Mineral Resource Provisions

The offshore hydrocarbon potential of Bangladesh's EEZ and continental shelf is considerable, and the development of these resources is a major element of the government's blue economy strategy. Several offshore gas fields have been identified in the Bay of Bengal, and there is potential for significant additional discoveries in areas that have not yet been fully explored. The governance of hydrocarbon exploration and exploitation in the maritime zones requires a clear legal framework addressing licensing and contract terms, safety regulation, environmental impact assessment, revenue management, and the rights and obligations of both domestic and foreign operators.

The 2021 Act establishes Bangladesh's sovereign rights over hydrocarbon resources in the EEZ and continental shelf, and it provides for the authorisation and regulation of exploration and exploitation activities in these areas. However, the detailed regulatory framework for offshore hydrocarbon development is governed by other legislation, most notably the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985 and the Production Sharing Contract model used by Petrobangla, the national oil company. The interaction between the maritime zones legislation and the hydrocarbon-specific legislation is not always clear, and there are areas of potential inconsistency that could create legal uncertainty for investors and operators.

The environmental regulation of offshore hydrocarbon activities in Bangladesh's EEZ is a particular concern. Major offshore oil or gas spills in the Bay of Bengal would cause catastrophic

damage to the marine environment and to the livelihoods of fishing communities throughout the region. The 2021 Act's general provisions on marine pollution prevention are not sufficient to establish the specific safety and environmental standards required for offshore hydrocarbon operations, and the absence of a dedicated offshore safety regime comparable to those in place in major offshore hydrocarbon jurisdictions like Norway, the United Kingdom, and Australia is a significant gap.

CHAPTER 6: THEORETICAL FRAMEWORKS FOR UNDERSTANDING BANGLADESH'S MARITIME LEGAL SITUATION

6.1 Sovereignty Theory and the Law of the Sea

The concept of sovereignty is the foundational concept of the modern international legal system, but it is also one of the most contested concepts in legal and political philosophy. The classic Westphalian conception of sovereignty, developed in the seventeenth century in the aftermath of the Peace of Westphalia, conceived of sovereignty as the supreme and exclusive authority of the state over its territory and the people within it. This territorial conception of sovereignty fitted well with the realities of land-based political organisation, where the boundary between one state's territory and another's could in principle be defined with precision, and where the state's authority within that territory could be exercised with some degree of completeness.

The extension of sovereignty to maritime spaces complicates this conception in several important ways. The zonal structure of UNCLOS, with its graduated regime of rights and obligations at different distances from the coast, does not correspond to the binary, within-or-outside character of territorial sovereignty. Within the territorial sea, the coastal state exercises sovereignty, but that sovereignty is subject to the significant qualification of the right of innocent passage. In the EEZ, the coastal state has sovereign rights for specific purposes, but it does not exercise sovereignty in the full Westphalian sense; other states retain important freedoms of navigation, overflight, and the laying of submarine cables. On the continental shelf, the coastal state has sovereign rights over specific resources, but the superjacent waters may be part of the high seas over which the coastal state has no sovereignty. And in the Area, the deep seabed beyond national jurisdiction, sovereignty is explicitly excluded by the common heritage of mankind principle.

This zonal complexity has led legal theorists to develop alternative conceptualisations of the legal character of the different maritime zones. Some scholars, drawing on the property law framework, have characterised the EEZ as a form of quasi-property, a bundle of rights over specific resources rather than a form of territorial sovereignty. Others, drawing on the public international law framework of functional jurisdiction, have characterised the coastal state's rights in the EEZ as a form of jurisdiction ratione materiae, jurisdiction over specific subject matters rather than over territory as such. The constructivist international relations theory of Alexander Wendt and others suggests that the legal content of the EEZ concept is determined not by any inherent physical properties of the ocean space but by the shared understandings and norms that states develop and contest in the process of international legal interaction.

For Bangladesh, the theoretical question of the nature of maritime sovereignty has practical implications. The choice between a territorial conception of the EEZ, which would maximise coastal state authority and minimise the rights of other states, and a functional conception, which would acknowledge the limited and resource-specific character of the coastal state's rights, affects the interpretation of enforcement powers, the scope of environmental regulation, and the relationship between domestic law and international obligation. Bangladesh's legal system and its international legal advocacy have generally favoured a broader conception of coastal state rights in the EEZ, consistent with the interests of a developing coastal state seeking to maximise its benefits from its maritime resources, but this must be balanced against the rights of other states under UNCLOS and against Bangladesh's own interest in freedom of navigation as a country dependent on maritime trade.

6.2 The Positivist and Natural Law Traditions in Bangladeshi Maritime Law

Bangladeshi law is, in formal structure, a largely positivist legal system: it derives its authority from enacted legislation, from judicial precedent, and from the constitutional framework. The courts apply the law as laid down in statutes and judicial decisions, and legal interpretation is primarily textual and structural. This positivist framework is, however, supplemented by a natural law tradition drawn from the common law heritage that Bangladesh shares with India and the United Kingdom, and from the Islamic legal tradition that is part of the cultural heritage of a majority Muslim society.

In the maritime context, the positivist tradition is reflected in the legislative framework of the Territorial Waters and Maritime Zones Act and its amendments, which establish the content of Bangladeshi maritime law in positive statutory form. The natural law tradition is reflected in the courts' willingness, in appropriate cases, to draw on principles of equity and justice in interpreting and applying the law, and in Bangladesh's invocation of equitable principles in its international maritime boundary arbitrations.

The relationship between international law and domestic law in the Bangladeshi legal system is of particular significance for maritime law. Bangladesh follows a dualist approach to international law: international treaties are not automatically incorporated into domestic law upon ratification but must be given effect through legislative implementation. This means that the ratification of UNCLOS in 2001 did not by itself make UNCLOS provisions part of domestic Bangladeshi law; legislation was required to implement UNCLOS obligations domestically, and the 2021 Amendment Act is the most significant piece of such implementing legislation. However, as noted above, the 2021 Act does not fully implement all of Bangladesh's UNCLOS obligations, and there are areas where domestic law still diverges from international obligation.

The question of direct effect of UNCLOS provisions in Bangladeshi courts is therefore complex. Under the dualist framework, courts are not generally required to apply UNCLOS provisions directly in domestic proceedings; they apply the domestic law as implemented. However, Bangladeshi courts have shown a willingness to consider international law principles in the interpretation of domestic statutes, and in cases where domestic law is ambiguous, there is a presumption that parliament intends to legislate consistently with international obligations. This principle, drawn from the common law tradition, provides a mechanism for indirect

incorporation of UNCLOS norms into domestic legal reasoning even in the absence of full legislative implementation.

6.3 Political Theory and Maritime Resources: Justice, Distribution, and the Blue Economy

The political theory of maritime resources raises fundamental questions about distributive justice that are directly relevant to Bangladesh's blue economy strategy. The UNCLOS framework, by establishing the EEZ, has transferred exclusive rights over the resources of an enormous area of sea from the global commons to individual coastal states. For Bangladesh, this transfer has been enormously beneficial: it has given the nation rights over the fish, hydrocarbons, and other resources of 118,813 square kilometres of ocean that were previously open to exploitation by any state. But it has also created new responsibilities and new questions about the distribution of benefits within Bangladesh.

Who benefits from the blue economy? This is a question with profound implications for social justice. If the benefits of offshore hydrocarbon development accrue primarily to the national government, to large domestic and international corporations, and to the urban middle class, while the costs, in the form of environmental degradation, disruption of traditional fisheries, and displacement of coastal communities, fall primarily on poor coastal fishing communities, then the blue economy will be a vehicle for the redistribution of wealth upward rather than downward. This outcome is not inevitable but it is a real risk, and it requires explicit attention in the design of the legal and regulatory framework.

The feminist international relations theory, as applied to the law of the sea, points to the gendered dimensions of maritime resource governance. Women in coastal fishing communities in Bangladesh play crucial roles in post-harvest fisheries processing, in the management of household incomes from fishing, and in the maintenance of social networks that provide resilience in the face of fishing seasons, cyclones, and other disruptions. Yet women are largely invisible in the formal governance structures of the blue economy, in the licensing systems, the regulatory bodies, and the policymaking processes. A gender-sensitive reform of Bangladesh's maritime law would need to address this invisibility and ensure that women's interests and perspectives are systematically incorporated into maritime governance.

The capability approach, developed by Amartya Sen and Martha Nussbaum and widely applied in the development economics literature, provides a useful framework for evaluating the distributional implications of maritime resource governance. On this approach, the relevant measure of justice is not the distribution of resources as such but the distribution of capabilities, the actual abilities of people to live lives they have reason to value. From this perspective, the blue economy succeeds only if it expands the capabilities of the most vulnerable members of coastal communities, including women, indigenous groups, small-scale fisherfolk, and marginalised coastal dwellers, not merely if it increases aggregate GDP or national resource revenue.

6.4 The Critical Legal Studies Perspective on International Maritime Law

Critical Legal Studies (CLS), a movement that emerged in American legal academia in the late 1970s and 1980s, offers a perspective on the law of the sea that challenges the ostensibly neutral and technical character of international maritime law and reveals its political and ideological dimensions. Drawing on the insights of Marxist political economy, feminist theory, and postcolonial theory, CLS scholars argue that legal rules and doctrines that appear to be based on objective criteria and neutral principles in fact serve the interests of the powerful over the weak, of the global North over the global South, and of capital over labour.

Applied to the law of the sea, the CLS critique challenges the neutrality of the UNCLOS framework. The EEZ concept, which appears to benefit all coastal states equally by giving each a two-hundred-mile zone of exclusive resource rights, in fact benefits technologically advanced states disproportionately, because the ability to exploit EEZ resources depends on having the technology, the capital, and the institutional capacity to do so. A country like Bangladesh, which lacks deep-water drilling technology, long-range fishery enforcement capability, and sophisticated marine scientific research infrastructure, cannot effectively exploit its EEZ resources in competition with technologically advanced states. The formal equality of the UNCLOS framework thus conceals a substantive inequality that systematically disadvantages developing coastal states.

The Third World Approaches to International Law (TWAIL) movement, which has developed the CLS critique in the specific context of international law and developing states, provides a more specific analytical framework for evaluating Bangladesh's maritime legal situation. TWAIL scholars like Antony Anghie and Bhupinder Chimni argue that international law is not a genuinely universal normative system but a system whose rules and institutions were developed by and for the benefit of Western colonial powers and their successors, and that its application to developing states perpetuates structures of inequality and dependency that have their roots in the colonial period.

In the maritime context, the TWAIL critique is reflected in several specific aspects of Bangladesh's legal situation. The international legal framework for the deep seabed, which Bangladesh has no practical capacity to exploit, was designed primarily to address the interests of the technologically advanced states that were developing deep-sea mining capabilities in the 1970s and 1980s. The dispute settlement framework of UNCLOS, while formally available to all states, requires significant legal and technical resources to use effectively, as Bangladesh's own arbitration experience demonstrates. And the framework of fisheries conservation under UNCLOS has often been used by developed distant-water fishing states to justify continued access to the EEZs of developing coastal states in the name of optimum utilisation, when the practical effect has been the exploitation of developing states' resources by foreign fleets.

6.5 Constructivism, Identity, and the Meaning of Maritime Sovereignty for Bangladesh

International relations constructivism, as developed by Alexander Wendt, Nicholas Onuf, and others, argues that the structures of international politics and law are not merely objective material realities but are constituted by the ideas, norms, and intersubjective understandings that states and other actors bring to their international interactions. Sovereignty, on this view, is not a natural property of states but a social institution, a set of norms and practices that define what it

means to be a state in the international community and what rights and obligations come with that status.

The constructivist perspective illuminates an important dimension of Bangladesh's maritime legal situation that is often overlooked in purely technical legal analysis: the identity dimension. For Bangladesh, a country that achieved its independence through a liberation war and that has defined its national identity in part through its resistance to oppression and its assertion of rights in the international community, the successful delimitation of its maritime boundaries through international arbitration is not merely a practical gain in terms of sea area and resource rights. It is an assertion of national identity, a demonstration of sovereignty, and a vindication of the nation's place in the international community of states. The legal victory in the Bay of Bengal is part of the story Bangladesh tells about itself.

This identity dimension of maritime sovereignty has implications for how Bangladesh's legal and political community engages with maritime law reform. Legal reforms that are framed in terms of Bangladesh's rights and Bangladesh's identity are more likely to generate political support than reforms framed in purely technocratic terms of compliance and efficiency. The reform of Bangladesh's maritime law framework should be presented not as an exercise in bureaucratic tidying but as a comprehensive assertion of Bangladesh's maritime sovereignty and its commitment to the responsible and equitable governance of its maritime resources for the benefit of its people.

CHAPTER 7: THE BLUE ECONOMY AS A LEGAL AND POLITICAL PROJECT

7.1 The Concept of the Blue Economy: Origins, Content, and Controversies

The concept of the blue economy, as it is applied in the contemporary policy and academic discourse on maritime development, was popularised by the World Bank's report The Potential of the Blue Economy, published in 2017, and by the work of the Sustainable Blue Economy Partnership and various national and regional policy frameworks. The concept refers broadly to the sustainable use of ocean resources for economic growth, improved livelihoods, and ocean ecosystem health. It encompasses a wide range of activities, including fisheries and aquaculture, maritime transport and port services, coastal and marine tourism, offshore energy including oil and gas and renewables, marine biotechnology and bioprospecting, submarine cables and telecommunications, and marine spatial planning.

The concept has considerable intuitive appeal, especially for developing coastal states like Bangladesh that have large maritime areas and relatively underdeveloped maritime sectors. It offers a narrative of sustainable development that bridges the divide between economic growth and environmental conservation, suggesting that the blue economy can simultaneously create wealth, reduce poverty, and protect marine ecosystems. This narrative has been embraced enthusiastically by the Bangladeshi government, which has made the development of the blue economy a central element of its long-term development strategy and which has articulated an ambition for the blue economy in the context of Vision 2041.

However, the blue economy concept is also subject to significant critical scrutiny, and it is important to engage with these critiques in any serious legal and policy analysis. First, the concept's claim to harmonise economic growth and ecological conservation has been challenged by those who argue that the fundamental drivers of marine ecosystem degradation, including overfishing, pollution, climate change, and habitat destruction, are structural features of capitalist development rather than manageable side effects that can be addressed through better governance and technology. On this view, the blue economy discourse may serve to legitimise the continued exploitation of ocean resources by distracting attention from the need for more fundamental changes in the relationship between human economies and marine ecosystems.

Second, the distribution of benefits from the blue economy within developing countries like Bangladesh raises serious questions of social justice. As noted above, the risks are significant that the benefits of offshore hydrocarbon development and large-scale aquaculture will accrue to elites and to international capital, while the costs in the form of environmental degradation and displacement of traditional fishing communities will fall on the poor. The blue economy concept does not in itself provide answers to these distributive questions; it requires supplementation by a social justice framework that explicitly addresses who benefits and who bears the costs.

Third, the relationship between the blue economy and gender equality deserves attention. The gendered character of maritime economic activities in Bangladesh, with men dominating formal fishing and maritime transport and women dominating post-harvest processing and informal coastal economic activities, means that gender-neutral blue economy policies will perpetuate and potentially worsen gender inequality unless they are explicitly designed to address it.

7.2 The Legal Framework for the Blue Economy in Bangladesh

The blue economy in Bangladesh currently lacks a comprehensive legal framework. The governance of maritime economic activities is distributed across a range of sector-specific laws and institutions, including the Marine Fisheries Ordinance for fisheries, the Bangladesh Oil, Gas and Mineral Corporation Ordinance for hydrocarbons, the Maritime Ports Ordinance for port services, the Merchant Shipping Ordinance for maritime transport, and the Bangladesh Coast Guard Act for maritime law enforcement. There is no overarching blue economy law or institution that coordinates these sector-specific frameworks and ensures their coherence with the overall strategic objectives of sustainable maritime development.

The absence of an integrated legal framework is not merely an administrative inconvenience; it creates substantive legal problems of overlapping jurisdiction, conflicting regulatory standards, and gaps in coverage. For example, the regulation of offshore aquaculture operations in the EEZ falls between the fisheries law and the territorial waters law in a manner that creates legal uncertainty about the applicable regulatory standards and the responsible enforcement authority. The governance of marine spatial planning, which requires the coordination of different uses of the maritime space across multiple sectors and across different zones, has no specific legal basis in current Bangladeshi law. And the implementation of Bangladesh's obligations under international maritime environmental conventions, including MARPOL, the London Protocol on dumping, and the emerging framework of climate obligations under UNCLOS, requires a level of institutional coordination that the current fragmented framework does not provide.

The proposal for an integrated Blue Economy Authority, which has been advanced by several Bangladeshi scholars and which was referenced in a 2025 academic publication on the blue economy in Bangladesh, is a constructive response to this institutional fragmentation. Such an authority could serve as the coordinating body for maritime economic governance, bringing together the functions currently distributed across multiple ministries and agencies and providing a single institutional home for the development and implementation of the integrated legal framework that the blue economy requires. The legal architecture of such an authority would need to be carefully designed to ensure its technical competence, its institutional independence, its accountability to the public and to parliament, and its effectiveness as a regulatory body.

7.3 BIMSTEC, Regional Cooperation, and the Legal Dimensions of Maritime Governance

Bangladesh's maritime interests cannot be fully addressed through domestic law alone; they require effective regional cooperation with the other states of the Bay of Bengal. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), whose secretariat is located in Dhaka, is the principal regional framework for this cooperation. BIMSTEC comprises Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand, and it encompasses a combined population of approximately 1.73 billion people and a GDP of approximately 5.2 trillion US dollars.

The sixth BIMSTEC Summit of 2025 adopted the BIMSTEC Agreement on Maritime Transport Cooperation (AMTC), which India was the first to ratify and which represents a significant advance in the formalisation of regional maritime governance. The agreement aims to enhance cargo and passenger movement, maritime safety, regional logistics, and blue economy development in the Bay of Bengal. The second BIMSTEC Ports Conclave, held in July 2025, further advanced the agenda of port-led industrialisation, digital integration, and regional connectivity in the maritime sector.

For Bangladesh, active participation in BIMSTEC maritime governance is both an obligation and an opportunity. As the host of the BIMSTEC secretariat and as the country most comprehensively dependent on the Bay of Bengal for its maritime interests, Bangladesh has a particularly strong stake in the effective governance of the Bay. The BIMSTEC framework provides a vehicle for the promotion of Bangladesh's interests in fisheries management, environmental protection, maritime security, and the equitable distribution of benefits from blue economy development. It also provides a forum for the resolution of bilateral maritime tensions, including the grey area problem with India, in a multilateral diplomatic context that may be less politically sensitive than direct bilateral negotiation.

The legal relationship between the BIMSTEC framework and Bangladesh's domestic maritime law is an important dimension of legal reform. BIMSTEC instruments, including the AMTC, create international obligations that Bangladesh must implement domestically, and the 2021 Amendment Act does not specifically address these regional obligations. A comprehensive maritime law reform should include provisions for the systematic implementation of BIMSTEC maritime obligations and for the coordination of domestic maritime governance with regional frameworks.

CHAPTER 8: MARINE ENVIRONMENTAL LAW AND THE CLIMATE CRISIS - OBLIGATIONS AND OPPORTUNITIES FOR BANGLADESH

8.1 The UNCLOS Environmental Framework and Bangladesh

Part XII of UNCLOS, entitled Protection and Preservation of the Marine Environment, is the most comprehensive body of international environmental law in any multilateral treaty. It consists of forty-six articles covering the general obligation to protect and preserve the marine environment, the prevention of pollution from different sources, enforcement, safeguards, and ice-covered areas. It has been characterised as a constitutional framework for international marine environmental governance, setting out principles and standards whose specific content is developed through more specialised international instruments and conventions.

For Bangladesh, Part XII of UNCLOS creates a comprehensive set of obligations that go significantly beyond what the domestic legislative framework currently addresses. Article 192 establishes the general obligation to protect and preserve the marine environment. Article 194 requires states to take all measures consistent with the Convention that are necessary to prevent, reduce, and control pollution of the marine environment from any source. Article 198 requires states to promptly notify other states that may be affected when they become aware of cases where the marine environment is in imminent danger of being damaged. Article 200 requires states to cooperate on a global and regional basis in formulating and elaborating international rules, standards, and recommended practices for the protection and preservation of the marine environment. And Article 204 requires states to observe, measure, evaluate, and analyse the risks or effects of pollution of the marine environment.

These obligations are not adequately reflected in the current Bangladeshi legal framework. As noted above, the 2021 Act does not define marine pollution, does not establish specific pollution prevention standards, does not create enforcement mechanisms specific to marine environmental protection, and does not address climate change as a source of marine pollution. The gap between international obligation and domestic implementation is significant.

8.2 The 2024 ITLOS Advisory Opinion and Bangladesh's Climate Obligations

The ITLOS Advisory Opinion of 21 May 2024 in Case No. 31, delivered in response to a request from the Commission of Small Island States on Climate Change and International Law (COSIS), is the most significant recent development in the jurisprudence of the law of the sea and one of the most important international legal developments of the decade. The Tribunal confirmed that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of UNCLOS, that states have due diligence obligations under Part XII to prevent, reduce, and control such pollution, and that these obligations are additional to and compatible with the obligations of states under the UNFCCC and the Paris Agreement.

The Advisory Opinion is significant for Bangladesh on multiple levels. First, as a country experiencing severe and well-documented impacts of climate change on its marine environment,

including sea-level rise, coastal erosion, saline intrusion, ocean warming, and increased cyclonic intensity, Bangladesh has a strong interest in the international community's acknowledgment that these impacts are the result of pollution of the marine environment for which other states bear legal responsibility. The Advisory Opinion provides a legal basis for Bangladesh to make claims against major emitting states under UNCLOS, though the practical challenges of translating an advisory opinion into enforceable claims are significant.

Second, as a state party to UNCLOS, Bangladesh has its own due diligence obligations under the Convention to prevent, reduce, and control marine pollution from greenhouse gas emissions. Bangladesh is a relatively minor contributor to global greenhouse gas emissions compared to major economies, but it does have emissions from its energy, industrial, and agricultural sectors that contribute, however marginally, to the global problem. More importantly, the due diligence obligation requires Bangladesh to take measures appropriate to its circumstances, including implementing emissions reduction policies consistent with its national capacities and its international commitments under the Paris Agreement, and ensuring that its maritime governance framework addresses climate change impacts on the marine environment.

Third, the Advisory Opinion's elaboration of the standard of due diligence in the marine environmental context, including the obligations of environmental impact assessment, cooperation, and monitoring, provides a benchmark against which Bangladesh's domestic maritime environmental governance can be evaluated. By the standards articulated in the Advisory Opinion, Bangladesh's current framework falls short, and a comprehensive reform must address this deficiency.

The ICJ Advisory Opinion of 23 July 2025, delivered pursuant to a UN General Assembly resolution, further elaborated states' obligations erga omnes regarding climate mitigation, providing an additional layer of international legal authority for the proposition that climate change is a global emergency in which all states have both rights and obligations. For Bangladesh, a country that has long been one of the leading voices in international climate diplomacy and that hosted the first South Asian Rainwater Harvesting Conference on climate adaptation in 2024, these developments represent a vindication of its international advocacy and a strengthening of the legal framework within which it operates.

8.3 Marine Biodiversity Beyond National Jurisdiction: The BBNJ Agreement

In June 2023, the United Nations adopted the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, known as the BBNJ Agreement or the High Seas Treaty. This instrument, negotiated over many years under the auspices of the UN General Assembly, establishes a comprehensive legal framework for the governance of marine biodiversity in areas beyond national jurisdiction, including environmental impact assessments for activities in the high seas and the Area, measures for area-based management and marine protected areas, and a system for the sharing of benefits from marine genetic resources.

The BBNJ Agreement is directly relevant to Bangladesh's maritime legal framework for several reasons. First, Bangladesh has an interest, as a developing coastal state with limited capacity for

marine scientific research, in the benefit-sharing provisions of the BBNJ Agreement, which aim to ensure that the benefits of marine genetic resource exploitation accrue equitably to all states, including developing states. Second, the environmental impact assessment provisions of the BBNJ Agreement establish standards and procedures that are relevant to activities in areas adjacent to Bangladesh's maritime zones and that may affect the marine environment within those zones. Third, as a state party to UNCLOS, Bangladesh is expected to ratify and implement the BBNJ Agreement, which as of 2025 is in the process of gathering the sixty ratifications required for entry into force.

Bangladesh's domestic legal framework does not currently address the BBNJ Agreement's provisions, and preparation for its implementation should be an element of the comprehensive maritime law reform agenda.

CHAPTER 9: MARITIME SECURITY, PIRACY, AND THE LEGAL FRAMEWORK

9.1 The Legal Framework for Maritime Security under UNCLOS

Maritime security is a dimension of the law of the sea that has attracted increasing attention since the late 1990s, driven by the resurgence of piracy in the Indian Ocean, the growing concern about maritime terrorism and the proliferation of weapons of mass destruction by sea, and the increasing recognition that maritime crime, including drug trafficking, human trafficking, and environmental crime, poses a significant threat to the security of coastal states and of global maritime commerce.

UNCLOS contains provisions on piracy in Articles 100 to 107, which establish the right of all states to repress piracy on the high seas and in any other place outside the jurisdiction of any state, define the acts that constitute piracy, and provide for the exercise of universal jurisdiction over pirates. These provisions were adequate for the traditional conception of piracy but have been found to be insufficient to address the full range of maritime security threats that have emerged in recent decades. The definition of piracy in UNCLOS, which requires acts to be committed on the high seas or in a place outside the jurisdiction of any state, excludes acts of violence committed within territorial waters, including the estuaries and coastal waters of Bangladesh, which are technically armed robbery at sea rather than piracy in the legal sense, even though their practical impact is similar.

The UN Security Council resolutions on Somali piracy, adopted from 2008 onward, significantly expanded the legal framework for counter-piracy operations and authorised measures that went beyond what UNCLOS strictly provided, including operations in Somali territorial waters with the consent of the Somali government. These resolutions demonstrated both the flexibility of the international legal system in addressing emerging security threats and its limitations, since the Security Council framework was tailored to the specific situation in the western Indian Ocean and does not provide a general legal basis for the expanded exercise of maritime security jurisdiction.

For Bangladesh, maritime security challenges include small-scale piracy and armed robbery in the coastal waters and inland waterways of the Bay of Bengal, which is the subject of annual reporting by the International Maritime Bureau. There is also a concern about the use of Bangladesh's maritime zones for drug trafficking, human trafficking, and the smuggling of arms, which is facilitated by the extensive and difficult-to-monitor coastline and the large number of fishing vessels and other small craft operating in coastal waters.

9.2 Bangladesh's Maritime Security Legal Framework

Bangladesh's maritime security legal framework is governed by a range of legislation including the Bangladesh Coast Guard Act of 2010, which established the Coast Guard as the primary maritime law enforcement agency responsible for patrol and enforcement in the territorial sea and EEZ; the Penal Code of 1860 (as amended), which contains provisions on piracy and related offences; the Prevention of Money Laundering Act and the Anti-Terrorism Act, which are relevant to the financial dimensions of maritime crime; and various customs and immigration laws applicable to maritime entry and exit.

The Bangladesh Coast Guard has made significant progress since its establishment in improving Bangladesh's maritime surveillance and enforcement capacity. However, its resources remain limited relative to the enormous area of sea that it is responsible for monitoring. The enforcement of fisheries regulations, the detection and interception of IUU fishing vessels, the investigation of maritime pollution incidents, and the maintenance of navigational safety are all demands that stretch the Coast Guard's capacity.

The legal framework for maritime security enforcement in Bangladesh's EEZ raises several questions that are not fully addressed in the current legislation. The power to board, inspect, and arrest foreign vessels suspected of violating Bangladesh's laws must be exercised in conformity with UNCLOS, which imposes significant procedural constraints on the exercise of this power. The use of force by Coast Guard vessels in maritime law enforcement must be proportionate and must comply with international human rights standards as well as UNCLOS requirements. The procedures for the prompt release of arrested foreign vessels and their crews, as required by UNCLOS Article 73(2), must be clearly established in domestic law.

The development of the blue economy will significantly increase the volume of commercial maritime activity in Bangladesh's EEZ, increasing both the importance and the complexity of maritime security governance. Offshore energy installations, submarine cables, and aquaculture facilities will create new targets for maritime crime and new responsibilities for maritime security forces. A comprehensive maritime law reform must address these challenges.

CHAPTER 10: LANDLOCKED STATES, TRANSIT RIGHTS, AND THE REGIONAL DIMENSION

10.1 The UNCLOS Framework for Landlocked States

Bangladesh's maritime legal framework must also be understood in the context of the broader regional geography of South Asia, which includes two landlocked states, Nepal and Bhutan, with significant interests in access to the sea through Bangladesh's ports and maritime facilities. UNCLOS Part X, Articles 124 to 132, addresses the right of access of landlocked states to and from the sea and freedom of transit. Article 125 provides that landlocked states shall have the right of access to and from the sea for the purpose of exercising the rights provided for in the Convention, including those relating to the freedom of the high seas and the common heritage of mankind.

For Nepal and Bhutan, access to the Bay of Bengal through Bangladesh is of vital importance for trade. Nepal, in particular, is dependent on Bangladesh's Chittagong port for a significant proportion of its overseas trade, and the development of improved road and rail connectivity between Nepal and Chittagong is an important element of the regional connectivity agenda being pursued through BIMSTEC and bilaterally between Bangladesh, Nepal, and India.

The legal framework governing Nepali and Bhutanese transit through Bangladesh is governed primarily by bilateral agreements and regional instruments rather than by domestic maritime law, but the maritime law framework must be coherent with the transit rights of these landlocked states. In particular, the port governance framework, the customs and immigration procedures at Bangladesh's ports, and the environmental and safety regulations applicable to vessels carrying transit cargo must accommodate the specific needs and rights of landlocked transit states.

10.2 The Bay of Bengal as a Semi-Enclosed Sea

UNCLOS Part IX, Articles 122 and 123, addresses enclosed or semi-enclosed seas, which are defined as gulfs, basins, or seas surrounded by two or more states and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and EEZs of two or more coastal states. Article 123 provides that states bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under the Convention, including coordinating the management, conservation, exploration, and exploitation of living resources, coordinating the implementation of their rights and duties concerning the protection and preservation of the marine environment, and coordinating their scientific research policies.

The Bay of Bengal meets the definition of a semi-enclosed sea, though this characterisation has not been specifically applied in the legal practice of the Bay of Bengal states. The application of Article 123 to the Bay of Bengal would create a framework of enhanced cooperation obligations among Bangladesh, India, Myanmar, Thailand, Sri Lanka, and, in relation to the Andaman and Nicobar Islands, India. The development of a regional governance framework for the Bay of Bengal consistent with Article 123, supplementing the BIMSTEC framework with a specific legal basis in UNCLOS, is an important long-term legal and policy objective that Bangladesh should champion in its regional diplomacy.

CHAPTER 11: DISPUTE SETTLEMENT AND BANGLADESH'S EXPERIENCE WITH INTERNATIONAL MARITIME ARBITRATION

11.1 The UNCLOS Dispute Settlement System: Architecture and Theory

Part XV of UNCLOS establishes a sophisticated and comprehensive system for the peaceful settlement of disputes concerning the interpretation or application of the Convention. This system represents one of the most significant innovations of UNCLOS as compared to the 1958 Geneva Conventions, which provided only optional dispute settlement mechanisms. The UNCLOS system is mandatory in the sense that any dispute party may unilaterally initiate binding dispute settlement proceedings under the Convention once the optional procedures of Article 283 (obligation to exchange views) and the optional exclusions of Article 298 have been exhausted or found inapplicable.

The theoretical foundation of the UNCLOS dispute settlement system is the principle of compulsory jurisdiction for binding decisions, balanced by a significant degree of party choice about the mechanism. Article 287 allows states to choose, by declaration at the time of ratification or at any time thereafter, among the following forums: ITLOS, the ICJ, an Annex VII arbitral tribunal, or an Annex VIII special arbitral tribunal. If a state has not made a declaration under Article 287, or if the parties to a dispute have not chosen the same forum, the dispute is submitted to Annex VII arbitration by default. This default mechanism ensures that no dispute can be blocked by a refusal to agree on a forum.

From the perspective of legal theory, the UNCLOS dispute settlement system represents a remarkable achievement in the institutionalisation of international legal authority. It translates the abstract principle of the rule of law into a concrete institutional framework that states have accepted as binding. The record of compliance with UNCLOS tribunal decisions, including the ITLOS judgment and the PCA award in Bangladesh's cases, is generally high, demonstrating that international legal authority can be effective even in the absence of a centralised enforcement mechanism. This effectiveness is grounded in the legitimacy of the process, in the quality of the reasoning in the decisions, and in the reputational and material costs that non-compliance would impose on states in a world where international cooperation is essential.

11.2 Bangladesh's Strategic Use of the Dispute Settlement System

Bangladesh's initiation of proceedings before ITLOS in December 2009, followed immediately by the filing of the PCA arbitration against India, was a bold and strategically sophisticated decision. The decision to pursue both proceedings simultaneously, rather than sequentially, was the result of careful legal and diplomatic calculation. By proceeding simultaneously, Bangladesh demonstrated that it was willing and able to use the full range of international legal mechanisms available to it, put pressure on both India and Myanmar to negotiate, and ensured that the legal principles established in one proceeding could be applied in the other.

The choice to initiate proceedings under UNCLOS rather than seeking resolution through other mechanisms reflected an assessment of Bangladesh's comparative advantage. In bilateral negotiations, Bangladesh faced the significant disadvantage of dealing with much larger and

more powerful states. In international arbitration, the legal merits of the case, and not relative power, determine the outcome. Bangladesh's legal team, led by prominent international maritime law scholars and practitioners, presented compelling arguments on the equitable delimitation of the maritime boundaries, drawing on the relevant precedents from the ICJ and other international tribunals, and the result, as described above, was substantially favourable.

The lesson that Bangladesh drew from this experience, and that other developing states have drawn from it, is that the UNCLOS dispute settlement system provides a genuinely accessible mechanism for the vindication of legal rights against more powerful states. The ability of a relatively small and poor country to successfully prosecute international legal claims against India, one of the world's major powers, before an international tribunal and receive a binding and favourable judgment is a testament to the rule of law in the international system and to the potential of international legal institutions to provide redress to developing states.

At the same time, the experience also demonstrated the significant financial cost and technical complexity of international maritime arbitration, which requires the services of specialised international maritime law experts and expert witnesses in hydrography, cartography, and geomorphology. The cost of Bangladesh's two sets of proceedings ran to tens of millions of US dollars. While this investment produced a return of enormous value, in the form of 105,496 square kilometres of maritime territory and the resources it contains, the financial and institutional demands of international arbitration remain a barrier to the use of the UNCLOS dispute settlement system by the poorest developing states.

11.3 Post-Award Implementation and the Remaining Challenges

The implementation of the ITLOS judgment and the PCA award in Bangladesh's domestic legal framework has been incomplete. As noted throughout this commentary, the 2021 Amendment Act has brought the domestic framework into general conformity with UNCLOS in many respects, but it has not specifically addressed all of the issues that arise from the implementation of the two awards. The grey area problem, the outer continental shelf, and the baseline questions are all areas where more specific domestic legislation or bilateral agreement is needed.

The practical implementation of Bangladesh's expanded maritime rights also requires significant capacity building. The effective governance of a maritime zone of 118,813 square kilometres requires investment in maritime surveillance technology, in hydrographic survey capacity, in marine scientific research infrastructure, in fisheries monitoring and enforcement capacity, and in the training and deployment of maritime law enforcement personnel. These investments have been partially made but are still insufficient for the comprehensive governance of Bangladesh's maritime territory.

CHAPTER 12: COMPARATIVE PERSPECTIVES - LESSONS FROM OTHER DEVELOPING COASTAL STATES

12.1 The Indian Experience

India, Bangladesh's neighbour and principal maritime boundary partner, provides an instructive comparison in terms of maritime law development. India ratified UNCLOS in 1995 and has developed a relatively comprehensive domestic maritime legal framework, including the Maritime Zones Act of 1976 (as amended), the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, and a range of sector-specific legislation covering fisheries, offshore hydrocarbons, maritime transport, and environmental protection. India also has an active maritime courts system and a well-developed maritime administrative apparatus.

India's blue economy experience, including its offshore hydrocarbon development in the Krishna-Godavari Basin and the development of offshore wind energy in Indian EEZ waters, provides concrete lessons for Bangladesh's blue economy aspirations. India's institutional framework, including the Ministry of Earth Sciences, the National Institute of Ocean Technology, and the Indian Coast Guard, offers a model for the institutional architecture that Bangladesh's maritime governance requires.

At the same time, India's experience also illustrates the challenges of balancing coastal development with environmental protection and the rights of fishing communities. The development of the Vizag Steel Plant and other industrial facilities on the Andhra Pradesh coast has been the subject of significant environmental litigation, and the rights of traditional fishing communities have sometimes been inadequately protected in the allocation of coastal development rights. These are challenges that Bangladesh must anticipate and address in its own blue economy development.

12.2 The Sri Lankan Experience

Sri Lanka, another BIMSTEC member with significant maritime interests and experience, has developed a sophisticated maritime legal framework that includes the Maritime Zones Law of 1976, the fisheries and aquatic resources legislation, and an extensive network of maritime bilateral agreements. Sri Lanka's experience with its exclusive economic zone governance, particularly in the context of fisheries disputes with India in the Palk Bay area, provides relevant lessons for Bangladesh's management of its own fisheries governance challenges.

Sri Lanka's Marine Environment Protection Authority, established by the Marine Environment Protection Act of 1981, is an example of the kind of specialised maritime environmental governance institution that Bangladesh lacks. The Authority's mandate covers the prevention of marine pollution, the management of marine protected areas, and the regulation of maritime activities for environmental purposes, providing a model for the institutional reform that Bangladesh's marine environmental governance requires.

12.3 The Indonesian Experience

Indonesia, the world's largest archipelagic state, provides a particularly interesting comparative perspective for Bangladesh, though the geographic and political contexts are very different. Indonesia's development of the archipelagic state concept under UNCLOS, enshrined in Part IV of the Convention, and its governance of an EEZ of approximately 3.28 million square

kilometres, is an example of comprehensive maritime governance at a scale significantly larger than Bangladesh's. Indonesia's experience with marine spatial planning, with the governance of fisheries in a complex multi-island geography, and with the development of offshore energy resources in challenging environments, provides lessons that are relevant to Bangladesh's own maritime governance challenges.

Indonesia's National Sea Policy, adopted in 2017, provides an integrated framework for maritime governance that brings together security, economic development, environmental protection, and legal jurisdiction in a coherent national strategy. The adoption of a similar integrated national maritime policy for Bangladesh, with a comprehensive legal framework to support it, is one of the central recommendations of this commentary.

12.4 The Pacific Small Island Developing States

The experience of Pacific Small Island Developing States (SIDS) in international maritime law is particularly relevant to Bangladesh's climate change-related maritime legal issues. Pacific SIDS, including Tuvalu, Kiribati, and the Marshall Islands, face existential threats from sea-level rise and are at the forefront of international advocacy for stronger legal obligations on climate change mitigation and adaptation. The COSIS request for an Advisory Opinion to ITLOS, which produced the landmark 2024 opinion discussed above, was initiated by a coalition of Caribbean SIDS, and Pacific SIDS have been equally active in the climate change and law of the sea diplomacy.

Bangladesh, as a country facing many of the same maritime climate impacts as Pacific SIDS, has a strong interest in aligning itself with these states in international legal advocacy. The COSIS framework, which has proven effective in generating authoritative international legal opinions on climate obligations, could be a model for a similar initiative by Bay of Bengal states, including Bangladesh, directed at the specific impacts of climate change on the Bay of Bengal marine environment.

CHAPTER 13: THE PATH TO REFORM - PRINCIPLES AND PRIORITIES

13.1 The Principles of Maritime Law Reform in Bangladesh

Any comprehensive reform of Bangladesh's maritime legal framework must be grounded in clearly articulated principles. Based on the analysis in the preceding chapters, this commentary proposes the following principles as foundational:

The first principle is sovereignty and rights maximisation. The reform must fully express and protect Bangladesh's sovereign rights over its maritime territory as determined by the ITLOS judgment of 2012, the PCA award of 2014, and the requirements of UNCLOS. No reform should reduce or compromise Bangladesh's maritime entitlements.

The second principle is sustainable development and environmental justice. The reform must establish a governance framework that enables the exploitation of Bangladesh's maritime resources for economic development while protecting the marine environment, maintaining ecological integrity, and ensuring intergenerational equity. The exploitation of maritime resources today must not compromise the ability of future generations of Bangladeshis to benefit from those resources.

The third principle is equity and social justice. The benefits of maritime resource development must be equitably distributed among the Bangladeshi population, with particular attention to the needs and rights of coastal fishing communities, women, and other marginalised groups. The legal framework must contain explicit provisions for community participation, benefit-sharing, and the protection of traditional maritime livelihood rights.

The fourth principle is international legal compliance and leadership. Bangladesh must not merely comply with its international legal obligations under UNCLOS and other maritime instruments; it must be a leader in the development and advocacy of progressive international maritime law, building on the success of its boundary arbitrations to become a recognised voice for developing coastal state interests in the global maritime legal discourse.

The fifth principle is institutional adequacy. The legal reform must be accompanied by institutional reform, ensuring that Bangladesh has the administrative capacity, the technical expertise, the financial resources, and the political will to implement its maritime legal framework effectively. A perfectly drafted maritime law that cannot be implemented is of limited value.

The sixth principle is regional integration and cooperation. Bangladesh's maritime governance must be integrated with the regional frameworks of BIMSTEC and other regional arrangements, ensuring that Bangladesh's national maritime interests are advanced through collective action as well as individual assertion.

13.2 The Legislative Agenda for Comprehensive Maritime Law Reform

Based on the analysis in this Part, the following legislative priorities are proposed for the comprehensive reform of Bangladesh's maritime legal framework:

A new, comprehensive Maritime Zones and Governance Act, replacing the 1974 Act and its 2021 Amendment, should be enacted. This Act should incorporate all of Bangladesh's maritime zones, their extent, the rights and obligations of Bangladesh and of other states within them, in a coherent and comprehensive legislative instrument. It should specifically address the grey area problem with India, provide for the regular review and updating of baselines, and establish the institutional framework for integrated maritime governance.

A new Marine Environmental Protection Act should be enacted, comprehensively implementing Bangladesh's obligations under UNCLOS Part XII, MARPOL, the London Protocol, and the climate change obligations confirmed by the 2024 ITLOS Advisory Opinion. This Act should define marine pollution, establish specific pollution prevention standards for different categories

of marine pollution, create an independent Marine Environment Protection Authority with enforcement powers, and provide for environmental impact assessment of maritime activities.

A comprehensive Marine Fisheries Act should be enacted, replacing the 1983 Marine Fisheries Ordinance. This Act should establish a modern fisheries management framework based on maximum sustainable yield and ecosystem-based management principles, provide for fisheries management plans and stock assessment requirements, create effective IUU fishing enforcement mechanisms, and protect the rights of small-scale artisanal fisheries.

An Offshore Petroleum and Mineral Resources Act should be enacted to provide a comprehensive legal framework for the authorisation, regulation, and environmental governance of offshore hydrocarbon and mineral resource development in Bangladesh's maritime zones.

A Coastal Zone Management Act should be enacted to provide a comprehensive framework for the integrated management of Bangladesh's coastal zone, addressing the interactions between land-based activities and maritime governance, the rights of coastal communities, the management of coastal erosion and sea-level rise, and the coordination of coastal development with marine spatial planning.

CHAPTER 14: JURISPRUDENTIAL REFLECTIONS ON THE FUTURE OF THE LAW OF THE SEA

14.1 The Law of the Sea in the Anthropocene

The concept of the Anthropocene, the proposed geological epoch in which human activities have become the dominant influence on the earth system, including the ocean, has profound implications for the law of the sea. The UNCLOS framework was designed for a world in which the ocean was vast, relatively undisturbed by human activity, and capable of absorbing significant amounts of pollution and exploitation without catastrophic degradation. That world no longer exists. The oceans are warming, acidifying, deoxygenating, and losing biodiversity at rates that have no precedent in the geological record of the past several million years. The governance framework for the oceans must adapt to this new reality.

The 2024 ITLOS Advisory Opinion is the most significant recent step in the adaptation of the law of the sea to the Anthropocene, but it is only a first step. The full implications of treating anthropogenic greenhouse gas emissions as marine pollution under UNCLOS have not yet been worked out in either jurisprudence or state practice. The obligations of environmental impact assessment, monitoring, and cooperation that flow from this characterisation are extensive and will require significant elaboration through future litigation, treaty negotiation, and state practice.

For Bangladesh, the Anthropocene perspective reinforces the urgency of comprehensive maritime law reform. The impacts of climate change on Bangladesh's maritime environment, the ecosystem services it provides, and the communities that depend on it are already severe and will become more severe in the decades to come. A legal framework adequate to these challenges

must be ambitious, forward-looking, and grounded in the best available scientific understanding of the state and trajectory of the Bay of Bengal marine environment.

14.2 Customary International Law and the Evolution of Maritime Norms

The relationship between UNCLOS and customary international maritime law is complex and dynamic. UNCLOS codified much of the customary law that existed at the time of its adoption, but it also innovated, creating new legal concepts like the EEZ and the common heritage of mankind principle that did not fully exist in prior custom. Conversely, state practice and opinio juris since the adoption of UNCLOS have contributed to the evolution of customary international maritime law in areas not specifically addressed by the Convention, and the jurisprudence of ITLOS, the ICJ, and arbitral tribunals has interpreted and developed UNCLOS norms in ways that have crystallised into customary law.

The question of whether specific UNCLOS provisions have become customary international law is practically important for states like the United States, which has not ratified the Convention but is bound by customary maritime law. It is also theoretically important for Bangladesh, because customary law may supplement and interpret the Convention in areas where the Convention is silent or ambiguous.

The emerging norms of the law of the sea in relation to climate change, ocean governance, marine biodiversity, and the rights of coastal communities are still in the process of formation, and Bangladesh has an opportunity to shape their development through its state practice, its treaty negotiations, and its advocacy in international forums. The progressive development of international maritime law is not a passive process to which Bangladesh must simply adapt; it is an active process in which Bangladesh can and should participate as a leading voice.

14.3 The Law of the Sea and Human Rights

The intersection of the law of the sea with international human rights law is an emerging and rapidly developing field. The human rights dimensions of maritime governance include the rights of seafarers to safe working conditions and freedom from arbitrary detention; the rights of migrants and asylum seekers who make dangerous sea crossings; the rights of fishing communities to their traditional livelihoods and to a healthy marine environment; and, most broadly, the right to a healthy environment as it applies to the marine context.

The 2024 ITLOS Advisory Opinion implicitly acknowledged the human rights dimension of marine environmental protection by referencing the special interests and needs of developing countries and the just and equitable international economic order reflected in the UNCLOS preamble. The Inter-American Court of Human Rights advisory opinion of 2024, on the human rights implications of climate change, made the connection between climate change and human rights more explicit, and the ICJ Advisory Opinion of July 2025 on climate obligations erga omnes provided further authoritative confirmation of this connection.

For Bangladesh, where the human rights implications of climate change-driven maritime degradation are acute and where the rights of coastal fishing communities are under pressure

from multiple directions, the integration of human rights perspectives into maritime law reform is essential. A comprehensive maritime governance framework that does not address the human rights dimensions of its subject matter is incomplete, and Bangladesh's maritime law reform should make explicit the connection between the right to a healthy marine environment and the internationally recognised human rights of the coastal population.

14.4 Digital Technology, Artificial Intelligence, and the Future of Maritime Governance

The rapid development of digital technology, satellite surveillance, artificial intelligence, and autonomous maritime systems is transforming both the practical governance of maritime spaces and the legal questions that arise in that governance. Maritime Domain Awareness, the use of satellite-based automatic identification systems, radar, and other surveillance technologies to monitor maritime activity across vast ocean areas, is becoming an essential tool of maritime law enforcement, environmental monitoring, and security governance.

For Bangladesh, the use of digital technology for maritime governance offers enormous opportunities. Satellite surveillance of the EEZ can dramatically improve the detection of IUU fishing vessels. Environmental monitoring systems can provide real-time data on ocean conditions, pollution incidents, and ecosystem health. Port community systems and electronic customs platforms can streamline the clearance of vessels and cargo through Bangladesh's ports. And the development of a comprehensive national maritime data infrastructure can support evidence-based policymaking and adaptive management of maritime resources.

The legal dimensions of maritime digital governance are complex and not fully addressed in current international maritime law. The legal status of autonomous maritime vehicles, including unmanned surface and underwater vehicles, under UNCLOS is uncertain; the Convention was drafted before these technologies existed and its provisions on vessels, ships, and submarines do not clearly cover autonomous platforms. The use of artificial intelligence in maritime decision-making, including decisions about vessel boarding, arrest, and enforcement, raises questions of accountability and due process that are not addressed in existing maritime law frameworks.

A forward-looking reform of Bangladesh's maritime legal framework should anticipate and address these emerging technological issues, drawing on the best available international guidance, including the work of the IMO's intersessional working group on Maritime Autonomous Surface Ships (MASS), the ITU's work on maritime digital communications, and the emerging literature on AI governance in the maritime sector.

CONCLUSION TO PART ONE

Part One of this textbook has undertaken the foundational intellectual work necessary for the comprehensive commentary and reform analysis that will follow in the subsequent nineteen Parts. It has traced the philosophical and historical development of the law of the sea from the ancient world to the present, examining the foundational contributions of Grotius, Selden, Bynkershoek, Vattel, and their successors; it has provided a detailed account of the UNCLOS

framework and its theoretical foundations; it has situated Bangladesh within the complex geopolitical and legal geography of the Bay of Bengal; it has provided a critical commentary on the trajectory of Bangladeshi maritime legislation, from the 1974 Act to the 2021 Amendment; it has analysed in depth the landmark international arbitrations that established Bangladesh's maritime boundaries; and it has examined the theoretical, philosophical, and political dimensions of maritime sovereignty, the blue economy, marine environmental governance, and the future of the law of the sea.

Several themes have emerged from this foundational analysis that will recur throughout the subsequent Parts of this textbook. The theme of the gap between international legal obligation and domestic legal implementation is central: Bangladesh has accepted international maritime law obligations through UNCLOS ratification and through the judgments of international tribunals, but its domestic legal framework does not yet fully implement these obligations, and the gap is growing as the international framework evolves. The theme of institutional inadequacy is equally central: Bangladesh has the legal entitlements but not always the institutional capacity to give practical effect to those entitlements, and law reform must be accompanied by institutional reform. The theme of distributional justice, ensuring that the benefits of maritime resource development reach those who most need them, is essential to a reform agenda that is not merely technically adequate but morally defensible. And the theme of regional integration, recognising that Bangladesh's maritime interests can only be fully advanced through cooperation with its neighbours and within the framework of regional institutions, is a constant reminder that national maritime governance must be understood in its regional and global context.

The sea, which Hugo Grotius imagined as a space of universal freedom and which John Selden saw as a space of sovereign authority, has proven to be neither fully free nor fully under any state's control. The law of the sea, in its long and complex history, has been the attempt to navigate between these two poles, to create a framework that enables the beneficial use of the ocean by all while protecting the legitimate interests of coastal states and of the international community as a whole. For Bangladesh, the challenge of this navigation is immediate, practical, and urgent. The waters of the Bay of Bengal are Bangladesh's patrimony, Bangladesh's future, and Bangladesh's responsibility. The law that governs those waters must be adequate to the immensity of that responsibility.

Parts Two through Twenty of this textbook will provide the detailed analysis, case-by-case commentary, comparative legal study, and specific legislative proposals necessary to build the comprehensive framework of maritime law reform that Bangladesh needs and that the people of Bangladesh deserve.

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End of Part One

Part Two: The Legal Architecture of the Exclusive Economic Zone - Rights, Obligations, and the Governance of Bangladesh's Marine Resources will be published in the subsequent volume of this series.

PART TWO

THE LEGAL ARCHITECTURE OF THE EXCLUSIVE ECONOMIC ZONE: RIGHTS, OBLIGATIONS, GOVERNANCE, AND THE IMPERATIVE OF COMPREHENSIVE REFORM IN BANGLADESH'S MARITIME RESOURCE LAW

A COMMENTARY ON SOVEREIGN RIGHTS, CONSERVATION DUTIES, FISHERIES GOVERNANCE, RESOURCE JURISDICTION, ENFORCEMENT JURISPRUDENCE, AND THE POLITICAL ECONOMY OF BANGLADESH'S BLUE ECONOMY IN THE EXCLUSIVE ECONOMIC ZONE

PREFACE TO PART TWO

The Exclusive Economic Zone is the most consequential innovation of twentieth-century international maritime law. It is the institutional expression of a fundamental redistribution of wealth, power, and legal authority over the oceans that took place during the decade-long negotiations of the Third United Nations Conference on the Law of the Sea, concluded in 1982, and whose consequences for the material fortunes of coastal states, particularly developing coastal states, were transformative in a way that few legal instruments in the history of international relations have been. For Bangladesh, a country whose entire sovereign relationship with the ocean was contested, undefined, and legally precarious for the first four decades of its existence, the EEZ is the zone that matters most. It is the zone in which Bangladesh's fish live, in which Bangladesh's hydrocarbons lie buried beneath the seabed, in which Bangladesh's maritime future is being built, and in which Bangladesh's legal governance framework is most urgently in need of comprehensive reform.

Part Two of this textbook undertakes the detailed jurisprudential, doctrinal, comparative, and policy analysis of the EEZ as a legal institution, with constant and specific reference to Bangladesh's legal situation. It proceeds through a series of chapters that address, in turn, the philosophical and theoretical architecture of the EEZ concept; the specific content of the coastal state's sovereign rights and jurisdiction under UNCLOS Articles 55 to 75; the duties and

obligations of the coastal state toward the marine environment, toward other states, and toward the international community; the rights of other states within the EEZ and the complex regime of concurrent entitlements that makes the EEZ one of the most legally intricate zones in the entire UNCLOS framework; the fisheries governance regime and its application to the catastrophically important problem of Bangladesh's marine fisheries; the governance of non-living resources including hydrocarbons, minerals, and energy generated from the sea; the environmental jurisdiction of the coastal state in the EEZ and its relationship to the broader UNCLOS environmental framework; the enforcement jurisdiction of the coastal state and the procedural and substantive constraints imposed by international law; and the comprehensive critique of Bangladesh's current domestic legal framework for EEZ governance, including the Marine Fisheries Ordinance of 1983 and the relevant provisions of the 2021 Amendment Act, with specific reform recommendations.

Throughout, this Part engages with the most significant recent jurisprudential developments, including the ITLOS Advisory Opinion of 2015 on flag state obligations for IUU fishing, the ITLOS Advisory Opinion of 2024 on climate change obligations, the BBNJ Agreement that entered into force in January 2026, and the evolving jurisprudence of ITLOS and other international tribunals on the precise content of EEZ rights and obligations. It also engages with the theoretical and philosophical traditions that illuminate the EEZ concept, from Rawlsian distributive justice to post-colonial critique, from feminist international relations theory to the constructivist analysis of legal identity. The aim is a commentary that is at once rigorously doctrinal and deeply reflective, that addresses both what the law is and what it should be, and that speaks not only to legal scholars and practitioners but to all who are concerned with the governance of Bangladesh's maritime future.

CHAPTER 1: THE INTELLECTUAL HISTORY AND PHILOSOPHICAL ARCHITECTURE OF THE EXCLUSIVE ECONOMIC ZONE

1.1 The EEZ as a Legal Revolution: Origins, Genealogy, and Conceptual Innovation

The Exclusive Economic Zone was not invented in a seminar room or derived from first principles by a committee of jurists. It emerged from the politics of decolonisation, from the economic aspirations of newly independent states, from the growing scientific consciousness of fisheries depletion, and from the determined diplomatic advocacy of a generation of developing world legal scholars and government representatives who understood that the freedom of the seas doctrine, as it had been operationalised under the Grotian tradition, was fundamentally a freedom for the powerful to exploit the resources of the ocean at the expense of coastal states that lacked the technology and capital to do so themselves.

The genealogy of the EEZ concept runs through several distinct but convergent intellectual and political currents. The first is the tradition of expansive coastal state fisheries claims that began in the mid-twentieth century and accelerated dramatically in the years following World War Two. Iceland's proclamation of a twelve-mile exclusive fishing zone in 1952, its extension to fifty miles in 1972, and the subsequent Cod Wars with the United Kingdom, resolved only

through arbitration and Iceland's ultimate success in establishing its exclusive fishing zone over British objections, demonstrated that smaller coastal states were willing to use political confrontation and eventually international arbitration to defend their claims to adjacent fishery resources. The Pacific Latin American states, particularly Peru, Ecuador, and Chile, took an even more radical position, claiming a two-hundred-mile maritime jurisdiction that encompassed both fisheries and other resources, and which they justified on the basis of the extraordinary biological productivity of the Humboldt Current in the waters off their coasts.

The second current is the development of the concept of permanent sovereignty over natural resources, which the United Nations General Assembly affirmed in a series of resolutions beginning with Resolution 1803 of 1962. This doctrine, developed primarily in the context of terrestrial natural resources and the right of newly independent states to nationalise foreign-owned extractive industries, was readily extended by analogy to the marine resources of adjacent sea areas. If a state has permanent sovereignty over the natural resources of its land territory, why should it not have similar sovereignty or sovereign rights over the resources of the sea adjacent to its coast? This argument was made explicitly by developing state representatives in the UNCLOS negotiations, and it provided a theoretical basis in the law of economic self-determination for the claims to exclusive coastal state authority over adjacent marine resources that eventually crystallised into the EEZ concept.

The third current is the emergence of marine environmental science and the growing awareness, from the 1960s onward, that the living resources of the ocean were finite, that unrestricted high-seas fishing was leading to the commercial exhaustion of major fish stocks, and that effective conservation required the exercise of regulatory authority by entities with a specific interest in the long-term sustainability of those resources. Coastal states, whose fishing communities, coastal ecosystems, and economic welfare were most directly dependent on the health of adjacent marine fisheries, were the obvious candidates for this regulatory role. The scientific case for coastal state jurisdiction over conservation and management of adjacent fisheries thus reinforced the political and economic case for exclusive resource jurisdiction, and together these arguments built an intellectually and politically compelling foundation for the EEZ concept.

The fourth current, less frequently acknowledged but jurisprudentially significant, is the critique of the freedom of the seas doctrine from the perspective of global equity and distributive justice. A number of developing state international lawyers and legal theorists argued, in the course of the UNCLOS negotiations and in the contemporary academic literature, that the freedom of the seas as it had been practised was not in fact a neutral or universal principle but a doctrine that served the interests of technologically advanced distant-water fishing states and prevented developing coastal states from benefiting from the marine resources adjacent to their coasts. The Maltese proposal for the common heritage of mankind, discussed in Part One, was one response to this critique; the EEZ, giving coastal states exclusive resource rights in adjacent waters, was another and in many respects more immediately practical response.

Hugo Caminos and Manuel Molina, writing in the American Journal of International Law in 1983, characterised the EEZ as "a major breakthrough in the international law of the sea," noting that it transformed the legal status of approximately 36 per cent of the ocean area from the high seas regime of freedom to a regime of coastal state sovereign rights. This characterisation

remains accurate, though the magnitude of the transformation perhaps deserves even stronger emphasis: the roughly 36 per cent of ocean area that falls within 200 miles of a coastline contains approximately 85 per cent of all commercially exploitable fish stocks and the vast majority of accessible seabed hydrocarbon reserves. The EEZ was, in short, a redistribution of the overwhelming majority of the economically significant resources of the ocean from the commons of humanity to the exclusive control of coastal states.

1.2 The Sui Generis Character of the EEZ: Neither Territorial Sea nor High Seas

One of the most fundamental and most frequently contested questions in the jurisprudence of the EEZ is the question of its legal nature. Is the EEZ a form of territorial sea, extended outward from the twelve-mile limit to two hundred miles, within which the coastal state exercises something approaching full sovereignty? Or is it a zone of limited functional jurisdiction carved out of the high seas, within which the coastal state has specific enumerated rights but the general character of the zone remains that of the high seas? The answer has profound implications for the interpretation of the coastal state's rights and the rights of other states in the EEZ, and it has been the subject of sustained and unresolved debate in international legal scholarship and in the jurisprudence of international tribunals.

The text of UNCLOS is itself somewhat ambivalent on this question. Article 55 provides that the EEZ is "an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention." This formulation establishes the EEZ as a distinct zone subject to its own specific legal regime, rather than assimilating it either to the territorial sea or to the high seas. Article 86 provides that the provisions of Part VII of UNCLOS on the high seas "apply to all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State," which implies that the EEZ is not part of the high seas. But Article 58(2) of UNCLOS provides that Articles 88 to 115 of the Convention on the high seas apply to the EEZ insofar as they are not incompatible with the provisions of Part V, which suggests a significant degree of continuity between the high seas regime and the EEZ regime in relation to third-state freedoms.

The International Court of Justice addressed this question, at least obliquely, in several of its maritime delimitation cases. In the Nicaragua v. Colombia case of 2012, the Court noted that the EEZ is an area where the coastal state has sovereign rights for purposes of exploration and exploitation of natural resources but that it is not an area of coastal state sovereignty in the same sense as the territorial sea. The Court's treatment of EEZ rights as distinct from both territorial sovereignty and high-seas freedom reflects the sui generis interpretation, which holds that the EEZ is a genuinely new legal concept that cannot be adequately understood by reference to either of the zones it replaces.

The ITLOS has generally approached EEZ rights in a pragmatic and functional manner, focusing on the specific content of the rights and obligations established by UNCLOS rather than resolving the abstract question of whether the zone is more analogous to the territorial sea or the high seas. This approach is evident in the ITLOS Advisory Opinion of 2015 in the SRFC case,

where the Tribunal carefully delineated the specific obligations of flag states and coastal states in the EEZ without addressing the broader question of the zone's fundamental legal character.

For Bangladesh, the theoretical question of the EEZ's legal nature has practical significance in at least two contexts. The first is the interpretation of enforcement powers: if the EEZ is understood as analogous to the territorial sea, the coastal state has broad police powers over all activities within the zone; if it is understood as a zone of limited functional jurisdiction, enforcement powers extend only to the specific subject matters over which the coastal state has jurisdiction under UNCLOS. The second is the interpretation of the rights of other states in the EEZ: if other states' freedoms in the EEZ are the residual freedoms of the high seas, they are presumptively broad; if they are specific grants carved out of what would otherwise be coastal state jurisdiction, they are presumptively narrow. Both of these questions have specific relevance to Bangladesh's governance of its EEZ, and the domestic legal framework should address them explicitly.

1.3 The Distributive Justice Foundations of the EEZ: Rawls, Equity, and the New International Economic Order

The EEZ concept was inextricably linked, in the political discourse of the UNCLOS negotiations, with the broader project of the New International Economic Order (NIEO), the set of demands made by developing states in the 1970s for a restructuring of the global economic system to address the inherited inequalities of the colonial period. The NIEO demanded, among other things, fairer terms of trade, technology transfer, debt relief, and the permanent sovereignty of states over their natural resources. The EEZ was the maritime dimension of this project: by giving coastal states exclusive rights over the resources of adjacent sea areas, it attempted to ensure that developing coastal states could benefit from their marine wealth rather than seeing it exploited by the fishing and mining industries of technologically advanced states.

The philosophical basis of the NIEO, and of the EEZ as its maritime expression, can be illuminated by reference to the distributive justice theory of John Rawls, developed in A Theory of Justice published in 1971. Rawls argued that principles of justice should be chosen behind a "veil of ignorance," a hypothetical situation in which the chooser does not know their position in society. If we were to design the rules governing access to marine resources without knowing whether we would be a powerful distant-water fishing nation or a poor developing coastal state, what rules would we choose? Rawls's theory suggests that we would choose rules that benefit the least advantaged members of the relevant community, which in the international context means the poorest coastal states. The EEZ, in giving coastal states exclusive rights over adjacent resources, moves in the direction of Rawlsian justice by preventing the richest and most technologically powerful states from monopolising resources that happen to be adjacent to the coasts of poorer countries.

However, the Rawlsian analysis also identifies significant limitations of the EEZ as an instrument of distributive justice. First, the EEZ is geographically determined: coastal states with long coastlines and large maritime areas benefit most, while landlocked states receive no benefit at all. This is not a distributively neutral outcome. Bangladesh, whose relatively modest coastline and geographic position at the head of the Bay of Bengal initially seemed to limit its EEZ entitlement severely, was nevertheless able to secure a substantial maritime area through the

equitable delimitation process, and this outcome reflects the Rawlsian principle of adjusting background rules to prevent the most disadvantaged from being further disadvantaged. But the landlocked states of the world, including Nepal and Bhutan in Bangladesh's own region, are entirely excluded from direct EEZ benefits, which is a distributional outcome that the Rawlsian framework would not endorse.

Second, the EEZ benefits accrue to states rather than to individuals within states. For a country like Bangladesh, where the benefits of maritime resource development are distributed through the existing structures of political economy, there is no guarantee that those benefits will reach the coastal fishing communities and marginalised populations who most need them. A Rawlsian analysis would require attention not only to the distribution of maritime benefits among states but to their distribution within states, and it would suggest that the domestic governance framework for EEZ resource development must incorporate explicit provisions for equitable benefit-sharing.

Charles Beitz, writing in Political Theory and International Relations, extended the Rawlsian framework to the international level and argued for what he called a global difference principle: international institutions and rules should be structured to benefit the globally least advantaged, not merely the domestically least advantaged. Applied to the EEZ, the global difference principle would suggest that the benefits of marine resource development should, to the maximum extent feasible, be directed to the benefit of the world's poorest people, many of whom live in the coastal communities of South and Southeast Asian developing states including Bangladesh. The blue economy, which promises to harness marine resources for economic development, fulfils this principle only if its governance framework specifically addresses the distribution of benefits to the poorest and most vulnerable.

1.4 Post-Colonial Theory and the EEZ: A Critical Reading

The Third World Approaches to International Law perspective, introduced in Part One in relation to the general UNCLOS framework, has specific and incisive things to say about the EEZ concept and its application to countries like Bangladesh. The TWAIL critique is not that the EEZ is inherently unjust but that the formal legal equality of the EEZ regime conceals substantive inequalities that reproduce the structural disadvantages of the colonial period.

Consider the formal structure of the EEZ regime under UNCLOS. Every coastal state, regardless of its economic capacity or technological sophistication, receives an EEZ of two hundred nautical miles. Bangladesh has an EEZ; the United States has an EEZ; Norway has an EEZ; the tiny Pacific island state of Tuvalu has an EEZ. On paper, they all have the same right to explore and exploit the living and non-living resources of their respective zones. But the ability to exercise that right depends entirely on having the technology, the capital, the institutional capacity, and the political stability to develop those resources. Bangladesh, in the first decade after its maritime boundaries were confirmed in 2014, did not have an operational deep-water drilling vessel, did not have a comprehensive marine scientific research programme, did not have a functioning fisheries management system based on stock assessment science, and did not have the institutional infrastructure to govern 118,813 square kilometres of EEZ effectively. Norway, by contrast, has one of the world's most sophisticated offshore petroleum industries, one of the

most advanced fisheries management systems, and a world-class marine scientific research infrastructure.

The formal equality of the EEZ conceals this substantive inequality, and in the absence of positive measures to address it, the EEZ will primarily benefit technologically advanced states that can access and exploit EEZ resources, either their own or, through fisheries access agreements, those of developing coastal states. The post-colonial critique thus points to the need for technology transfer, capacity building, and institutional support as essential complements to the formal legal rights granted by the EEZ, and it suggests that international maritime governance must address these substantive inequalities if the formal legal framework is to achieve its stated objectives of equitable distribution of ocean benefits.

For Bangladesh, the post-colonial critique is not merely academic. The history of foreign fishing vessels exploiting the rich fisheries of the Bay of Bengal before and after Bangladesh's independence, in a pattern that mirrors the broader history of resource extraction from the global South for the benefit of the global North, is directly relevant to the design of Bangladesh's fisheries governance framework. The challenge is to convert the formal legal right of EEZ sovereignty into the substantive capacity to govern and benefit from those resources, and this requires a combination of legal reform, institutional capacity building, and strategic international partnerships.

1.5 Constructivist Analysis: The EEZ as a Social Construction and Its Meaning for Bangladesh

The constructivist perspective in international relations theory, which holds that the structures of international politics are social constructions rather than objective material realities, offers a useful lens through which to examine the EEZ's significance for Bangladesh. On a constructivist reading, the EEZ is not simply a physical space or a bundle of legal rights; it is a set of shared understandings, norms, practices, and narratives that give meaning to Bangladesh's relationship with the Bay of Bengal and to Bangladesh's identity as a maritime state.

The successful delimitation of Bangladesh's EEZ through the ITLOS judgment of 2012 and the PCA award of 2014 was not merely a practical gain in terms of sea area and resource rights; it was a constitutive moment for Bangladesh's identity as a maritime state. The process of asserting and defending those rights through international arbitration shaped Bangladesh's legal consciousness, its diplomatic practices, and its understanding of itself as a state with maritime interests worth fighting for. The Blue Economy Cell, the articulation of the blue economy as a national development strategy, and the 2021 amendment to the Territorial Waters Act are all expressions of this new maritime identity.

But the constructivist analysis also points to the importance of narrative and framing in the governance of the EEZ. The blue economy narrative frames the EEZ primarily as an economic opportunity, a source of resources to be developed for national prosperity. An alternative narrative, which this commentary seeks to advance, frames the EEZ as a space of sovereign responsibility, a commons held in trust for the Bangladeshi people, including future generations, and requiring governance that is not merely economically efficient but ecologically sustainable

and socially equitable. The choice between these narratives is not merely aesthetic; it determines the priorities and the design of the governance framework. A governance framework shaped primarily by the economic opportunity narrative will prioritise resource extraction and revenue generation; a governance framework shaped by the sovereign responsibility narrative will prioritise conservation, equitable distribution, and intergenerational justice.

CHAPTER 2: THE SOVEREIGN RIGHTS OF THE COASTAL STATE IN THE EEZ - A DETAILED DOCTRINAL ANALYSIS

2.1 Article 56 of UNCLOS: The Foundational Provision

Article 56 of UNCLOS is the foundation of the EEZ legal regime. It provides, in its relevant part, that in the EEZ, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents, and winds. It also provides that the coastal state has jurisdiction with regard to the establishment and use of artificial islands, installations, and structures; marine scientific research; and the protection and preservation of the marine environment.

The distinction drawn by UNCLOS between "sovereign rights" and "jurisdiction" in the EEZ is legally significant and has been the subject of extensive scholarly commentary. Sovereign rights, as used in Article 56(1)(a), refer to rights that are inherent in sovereignty, that are exclusive to the coastal state, and that the coastal state may exercise for its own benefit without the need to justify or obtain the consent of other states. Jurisdiction, as used in Article 56(1)(b), refers to a more limited form of regulatory authority over specific activities within the zone, which must be exercised in accordance with the requirements of UNCLOS and may be subject to concurrent jurisdiction of flag states in some circumstances.

The natural resources over which the coastal state has sovereign rights under Article 56 include both living and non-living resources. Living resources include fish, other marine organisms, marine mammals, and other living things in the water column and on or under the seabed. Non-living resources include hydrocarbons (oil and natural gas), minerals on or under the seabed, and the energy potential of the water, currents, and winds. The reference to "other activities for the economic exploitation and exploration of the zone" is a general clause that extends the coastal state's sovereign rights beyond the specifically listed resources to other forms of economic exploitation that may be developed in the future, including marine biotechnology, marine tourism, and other activities not anticipated at the time UNCLOS was drafted.

The sovereign rights of the coastal state in the EEZ are exclusive in the sense that they vest solely in the coastal state and cannot be exercised by other states without the coastal state's authorisation. However, they are not absolute. Article 56(2) provides that in exercising its rights and performing its duties under UNCLOS in the EEZ, the coastal state shall have due regard to the rights and duties of other states and shall act in a manner compatible with the provisions of

the Convention. This requirement of due regard creates a framework of mutual constraint between the coastal state's sovereign rights and other states' freedoms in the zone, and it has been one of the most contested provisions in the jurisprudence of the EEZ.

2.2 The Resource Jurisdiction of the Coastal State: Living Resources

The sovereign rights of the coastal state over living resources in the EEZ are elaborated in Articles 61 to 68 of UNCLOS. Article 61 addresses conservation measures and provides that the coastal state shall determine the allowable catch of living resources in its EEZ. This determination must be based on the best scientific evidence available and must be made with a view to ensuring that the maintenance of living resources is not endangered by over-exploitation. Article 61(3) further provides that the coastal state shall take measures designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors.

The concept of maximum sustainable yield (MSY) is central to the UNCLOS fisheries conservation framework. MSY refers to the largest yield that can be taken from a fish stock over an indefinite period without causing the stock to decline. It is a concept that combines biological science with economic theory, and it has been operationalised through stock assessment models that estimate the size and reproductive capacity of fish populations and the effect of different levels of harvesting on those populations. The requirement that coastal states maintain fisheries at MSY levels is one of the most demanding substantive obligations in UNCLOS, and compliance with it requires sophisticated scientific infrastructure, regular stock assessment surveys, and adaptive management that adjusts harvesting levels as new scientific information becomes available.

Bangladesh's compliance with the Article 61 obligation is seriously deficient. The Marine Fisheries Ordinance of 1983 does not establish a system for determining allowable catch based on stock assessment; it regulates fishing through licensing, gear restrictions, and closed seasons, but without the scientific foundation that the UNCLOS framework requires. No comprehensive stock assessment of Bangladesh's major commercial fish species has been conducted using modern survey methods, and the determination of fishing effort levels is based on historical practice and political negotiation rather than scientific analysis of stock status. The consequences of this deficiency are severe: multiple commercially important fish stocks in the Bay of Bengal, including hilsa (Tenualosa ilisha), the national fish of Bangladesh, several species of tuna, sharks, and bottom-dwelling species, are under significant pressure from fishing effort levels that are not scientifically assessed or effectively controlled.

Article 62 of UNCLOS addresses the utilisation of living resources and establishes a framework for access by foreign states to the surplus of the allowable catch. The coastal state must promote the objective of optimum utilisation of living resources in its EEZ, and where the coastal state does not have the capacity to harvest the entire allowable catch, it shall give other states access to the surplus. This provision reflects a compromise between coastal state exclusive rights and the principle of optimum utilisation: it prevents coastal states from excluding all foreign fishing merely for the sake of exclusion, and it requires that unused resources be made available to other states. However, the coastal state has very broad discretion in determining the allowable catch,

its own harvesting capacity, and the extent of any surplus, which effectively gives it control over the access regime.

Bangladesh has in practice not exercised this provision in a systematic way. There are no publicly available determinations of allowable catch for Bangladesh's major fish stocks, no assessments of Bangladesh's own harvesting capacity relative to those levels, and no formal system for licensing foreign fishing vessels to access any surplus. The legal framework for foreign fishing access to Bangladesh's EEZ is ad hoc and insufficiently transparent, and it does not comply with the systematic framework contemplated by UNCLOS Article 62.

2.3 The Resource Jurisdiction of the Coastal State: Special Categories of Living Resources

UNCLOS establishes special regimes for several categories of living resources that present particular conservation and management challenges. Articles 63 to 68 address, respectively, stocks occurring within EEZs of two or more coastal states (straddling stocks), highly migratory species, marine mammals, anadromous stocks, and catadromous species. Each of these special regimes imposes additional obligations on the coastal state beyond the general conservation framework of Article 61.

Article 63(1) requires that where the same stock or stocks of associated species occur within the EEZs of two or more coastal states, those states shall seek to agree, directly or through subregional or regional organisations, on measures necessary to coordinate and ensure the conservation and development of those stocks. Several of the most commercially important fish species in the Bay of Bengal, including hilsa, Indian mackerel (Rastrelliger kanagurta), and several species of shrimp, occur across the EEZs of Bangladesh, India, and Myanmar. The obligation of Article 63(1) therefore requires Bangladesh to cooperate with these neighbouring states on the conservation and management of these shared stocks, but the mechanisms for such cooperation are underdeveloped. The BIMSTEC framework offers a potential vehicle for this cooperation, but it has not yet been used systematically for stock-specific management coordination.

Article 64 addresses highly migratory species, including tuna, billfish, oceanic sharks, and other species listed in Annex I of UNCLOS. These species make extensive oceanic migrations that take them across multiple EEZs and into the high seas, and their management therefore requires cooperation among coastal states and between coastal states and distant-water fishing states. The article requires coastal states and other states whose nationals fish in the region for highly migratory species to cooperate directly or through appropriate international organisations with a view to ensuring conservation and promoting optimum utilisation of such species throughout the region. The Indian Ocean Tuna Commission (IOTC), established in 1996 under the auspices of the FAO, is the primary international organisation responsible for the management of highly migratory tuna species in the Indian Ocean, including the Bay of Bengal. Bangladesh is a member of the IOTC, but its participation has been limited by institutional capacity constraints, and its domestic implementation of IOTC conservation and management measures is incomplete.

Article 65 addresses marine mammals and provides that nothing in UNCLOS prevents the coastal state from prohibiting, limiting, or regulating the exploitation of marine mammals more

strictly than provided for in other articles of Part V. The Bay of Bengal is home to several species of marine mammals, including the Irrawaddy dolphin (Orcaella brevirostris), the Indo-Pacific bottlenose dolphin (Tursiops aduncus), the spinner dolphin (Stenella longirostris), and occasionally finless porpoises and blue whales. These species are protected under Bangladesh's Wildlife (Conservation and Security) Act of 2012, but the specific provisions of that Act in relation to marine mammal protection in the EEZ are not well integrated with the maritime zones legal framework, and the enforcement capacity for marine mammal protection in the EEZ is essentially non-existent.

2.4 The Resource Jurisdiction of the Coastal State: Non-Living Resources

The sovereign rights of the coastal state over non-living resources in the EEZ encompass the mineral and energy resources of the water column, the seabed, and the subsoil of the EEZ. In the context of the seabed and subsoil, these rights overlap significantly with the continental shelf rights of the coastal state under Articles 76 to 85 of UNCLOS, since the seabed of the EEZ is also the continental shelf within 200 nautical miles. The primary distinction is that the EEZ regime governs the resources of the water column as well as the seabed and subsoil, whereas the continental shelf regime governs only the seabed and subsoil.

The most economically significant non-living resource in Bangladesh's EEZ is natural gas. Bangladesh has one of the world's major natural gas reserves relative to its size, and significant offshore gas fields have been identified in the Bay of Bengal. The Sangu gas field, which has been the primary offshore production site, has been operational since the 1990s but is now substantially depleted. Several deep-water blocks in the Bay of Bengal have potential for significant new gas discoveries, and the governance of exploration and production in these areas is a matter of major national economic significance.

The legal framework for offshore hydrocarbon exploration and production in Bangladesh's EEZ is governed primarily by the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985 and the Production Sharing Contract (PSC) model used by Petrobangla, Bangladesh's national oil company. The PSC model is the standard international framework for offshore hydrocarbon development, under which the state retains ownership of the resources while private operators, domestic or foreign, bear the risk and cost of exploration and development in exchange for a share of production. The PSC framework used by Petrobangla has been criticised on several grounds, including the fiscal terms offered to international companies, the environmental standards required of operators, and the absence of adequate provisions for decommissioning and environmental restoration of offshore installations at the end of their productive life.

The energy resources of the water column, including the potential for offshore wind energy and wave energy in Bangladesh's EEZ, are not currently governed by any specific legal framework. Global development of offshore wind energy has accelerated dramatically since 2020, with the United Kingdom, Denmark, Germany, China, and the United States all commissioning major offshore wind farms in their respective EEZs. Bangladesh's EEZ, while not having the wind resources of the North Sea, does have the potential for offshore wind development, particularly in the southern areas of the EEZ where wind speeds are adequate for commercial generation. The legal framework for the authorisation, regulation, and environmental governance of offshore

renewable energy installations in Bangladesh's EEZ needs to be developed, and this is an area where the 2021 Amendment Act is silent.

2.5 Jurisdiction over Artificial Islands, Installations, and Structures: Article 60

Article 60 of UNCLOS grants the coastal state the exclusive right to construct, and to authorise and regulate the construction, operation, and use of artificial islands, installations, and structures in its EEZ. Artificial islands, installations, and structures include a wide range of facilities, from offshore oil and gas platforms to aquaculture installations, from scientific research platforms to military facilities, and potentially from offshore renewable energy installations to floating storage facilities for marine resources. The coastal state has jurisdiction over these structures for customs, fiscal, health, safety, and immigration laws, and it may establish safety zones of up to 500 metres around them to protect navigation and the structures themselves.

The Article 60 jurisdiction is important for Bangladesh's blue economy development because many of the activities contemplated by the blue economy strategy will involve the construction or emplacement of artificial structures in the EEZ. Offshore aquaculture facilities, offshore gas platforms, potential offshore wind turbines, and marine scientific research stations are all covered by Article 60. The domestic legal framework needs to provide a clear and transparent system for the authorisation of such structures, specifying the criteria for authorisation, the environmental impact assessment requirements, the safety standards applicable to structures and their safety zones, and the removal obligations at the end of operational life.

The UNCLOS obligation to ensure the removal of disused installations and structures is particularly significant in the context of the decommissioning of aging offshore gas infrastructure in Bangladesh's EEZ. Article 60(3) provides that structures which are abandoned or disused shall be removed to ensure safety of navigation, with due regard for fishing, the protection of the marine environment, and the rights and duties of other states. Removal must be carried out to a depth that ensures navigation safety, and the flag state and the coastal state share responsibility for ensuring compliance. Bangladesh's current legal framework does not contain specific provisions for offshore infrastructure decommissioning, and this is a gap that could have significant environmental and fiscal consequences if not addressed proactively.

2.6 Marine Scientific Research Jurisdiction: Article 246

The coastal state has jurisdiction over marine scientific research in the EEZ under Articles 246 and 249 to 253 of UNCLOS. Article 246 provides that the coastal state has the right to regulate, authorise, and conduct marine scientific research in its EEZ. Other states and competent international organisations wishing to conduct research in the EEZ must obtain the consent of the coastal state, and the coastal state may withhold consent in specific circumstances, including where the project involves drilling, the use of explosives, the introduction of harmful substances into the marine environment, or where the research has practical applications for the exploration and exploitation of natural resources.

The marine scientific research regime in UNCLOS reflects a careful balance between the coastal state's sovereign right to control research in its EEZ and the international community's interest in

promoting scientific knowledge of the ocean. The balance is implemented through a consent-based system that gives the coastal state broad discretion to authorise or refuse research projects, while imposing obligations on researchers to share data and results with the coastal state and to ensure that the coastal state has the opportunity to participate in the research.

Bangladesh's domestic legal framework for the regulation of marine scientific research in its EEZ is essentially non-existent. There is no specific legislation governing the authorisation, conduct, and reporting of marine scientific research in Bangladesh's EEZ, and the general provisions of the 2021 Amendment Act are insufficient to give effect to the detailed UNCLOS framework. This is a significant gap for several reasons. Foreign research vessels conduct marine scientific surveys in the Bay of Bengal on a regular basis, and Bangladesh's lack of a clear regulatory framework means that this research is not effectively monitored or controlled. The data and results of such research, which may have significant implications for Bangladesh's resource exploitation decisions, may not be shared with Bangladesh as UNCLOS requires. And Bangladesh's own marine scientific research capacity is severely limited, meaning that it is dependent on foreign research for the scientific knowledge that effective EEZ governance requires.

CHAPTER 3: THE DUTIES AND OBLIGATIONS OF THE COASTAL STATE IN THE EEZ

3.1 The Conservation Obligation: Due Diligence and Its Evolving Content

The coastal state's sovereign rights in the EEZ are accompanied by significant obligations, and the failure to appreciate and discharge these obligations is one of the most significant deficiencies in Bangladesh's current maritime governance framework. The most fundamental of these obligations is the conservation obligation in Article 61(2) of UNCLOS, which requires the coastal state to ensure through proper conservation and management measures that the maintenance of the living resources in the EEZ is not endangered by over-exploitation.

The nature of this obligation as an obligation of due diligence rather than an obligation of result is an important aspect of its legal character. An obligation of result would require the coastal state to achieve a specific outcome, such as maintaining fish stocks at MSY levels, regardless of the difficulty or cost of doing so. An obligation of due diligence requires the coastal state to take all appropriate measures, with the best available means at its disposal, to achieve the conservation objective, even if the objective is not fully achieved. The ITLOS 2015 Advisory Opinion in the SRFC case confirmed that the coastal state's conservation obligations in the EEZ are obligations of due diligence, not obligations of result, a characterisation that was reinforced in the 2024 ITLOS Advisory Opinion on climate change obligations.

The content of due diligence is not static; it evolves as the best available scientific and technical standards develop. As confirmed by the ITLOS in the 2024 Advisory Opinion, due diligence requires states to take all necessary measures consistent with the best available standards and knowledge, and it requires states to keep their measures under review and to update them as

circumstances and knowledge change. For Bangladesh's fisheries governance, this means that the obligation of due diligence requires not merely the enactment of conservation legislation but the ongoing implementation of that legislation through effective enforcement, regular scientific monitoring of stock status, and adaptive adjustment of management measures in response to changes in stock status.

The ecosystem approach to fisheries management, which has emerged as the dominant paradigm in international fisheries science and governance since the late 1990s, is now reflected in multiple international instruments and is increasingly considered a component of the due diligence standard for fisheries conservation. The ecosystem approach requires that fisheries management consider not only the target species but the full ecosystem within which those species exist, including predator-prey relationships, habitat requirements, and the effects of fishing on non-target species. The FAO Code of Conduct for Responsible Fisheries, adopted in 1995, and its subsequent implementation guidelines elaborate the ecosystem approach in detail, and compliance with the Code of Conduct is increasingly regarded as a benchmark for due diligence in fisheries governance.

Bangladesh's Marine Fisheries Ordinance of 1983 does not reflect the ecosystem approach. Its management measures, including gear restrictions, closed seasons, and size limits, were designed with single-species management in mind and do not address ecosystem-level effects of fishing. A comprehensive reform of Bangladesh's fisheries legislation must incorporate the ecosystem approach as its foundational management philosophy, including through provisions for the assessment and management of ecosystem effects of fishing, the designation and management of essential fish habitat, and the mitigation of bycatch and discards.

3.2 The Optimum Utilisation Obligation and the Surplus Sharing Requirement

Article 62(1) of UNCLOS provides that the coastal state shall promote the objective of optimum utilisation of the living resources in its EEZ, and Article 62(2) provides that the coastal state shall determine its capacity to harvest living resources and where it does not have the capacity to harvest the entire allowable catch, it shall give other states access to the surplus. This provision has been one of the most politically contested in the EEZ regime, because it imposes an obligation on the coastal state that potentially limits its ability to restrict access to EEZ resources to domestic fishers.

The optimum utilisation obligation reflects the negotiating compromise between coastal states seeking exclusive resource rights and distant-water fishing states seeking to preserve access to resources they had historically exploited. The compromise was that coastal states would receive exclusive rights over EEZ resources, but they could not simply leave those resources unexploited; they had an obligation to ensure that the resources were utilised to their optimum level, and if they could not do so themselves, they had to share the surplus with other states. The distant-water fishing states accepted the loss of open-access fishing on the future EEZs in exchange for the legal principle that unused resources would be made available to them.

In practice, the surplus-sharing obligation has been much less significant than the negotiations suggested it would be. Coastal states have used their broad discretion to set allowable catch

levels and to assess their own harvesting capacity in ways that leave very little or no surplus available to foreign states. The FAO has documented a general pattern in which coastal states routinely claim to utilise the full allowable catch of resources in their EEZs, even in cases where independent scientific evidence suggests that fishing effort is already unsustainably high. This pattern reflects the political difficulty of acknowledging an obligation to share resources with foreign states, even where domestic industries cannot fully exploit those resources.

For Bangladesh, the surplus-sharing obligation is relevant in at least two directions. First, Bangladesh has an obligation to assess its own harvesting capacity honestly and to determine whether any surplus exists that should be made available to foreign states. Given the current levels of fishing effort in Bangladesh's EEZ, it is likely that few if any commercially important stocks have a harvestable surplus, and that the priority must be on reducing domestic fishing pressure rather than admitting foreign access. Second, Bangladesh has rights as a state with nationals who fish in the EEZs of neighbouring states, and it should advocate in regional fisheries governance forums for the recognition of its nationals' historical fishing patterns as a relevant consideration in any access regime established by neighbouring coastal states.

3.3 The Environmental Protection Obligation in the EEZ

The environmental obligations of the coastal state in the EEZ are elaborated in Part XII of UNCLOS (Articles 192 to 237) and in a range of more specific international instruments, including MARPOL 73/78, the London Protocol on dumping at sea, and the BBNJ Agreement. The general obligation of Article 192, to protect and preserve the marine environment, applies throughout the ocean including in the EEZ, and it encompasses both the prevention of pollution from human activities and the conservation of marine ecosystems and biodiversity.

The most significant recent development in the environmental obligations of coastal states in the EEZ is the ITLOS Advisory Opinion of 21 May 2024 in Case No. 31, which confirmed that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of UNCLOS and that states have due diligence obligations to take all necessary measures to prevent, reduce, and control such pollution. The implications of this Opinion for the governance of activities in Bangladesh's EEZ are profound and have not yet been adequately addressed in the domestic legal framework.

The Opinion's relevance to EEZ governance extends beyond the obvious issue of emissions from vessels and offshore installations. The Tribunal's broad interpretation of marine pollution as encompassing any introduction of substances or energy into the marine environment that results or is likely to result in harm to living resources, marine life, human health, or other marine activities means that the EEZ governance framework must address multiple categories of pollution that are not addressed in the 2021 Amendment Act. These include noise pollution from seismic surveys and shipping, which affects marine mammals and fish; heat pollution from coastal power plants and industrial facilities; light pollution that affects migrating fish and sea turtles; and the complex mixture of contaminants introduced into the Bay of Bengal from Bangladesh's rivers, which carry industrial effluents, agricultural chemicals, plastic waste, and sediment from deforested upstream areas.

The coastal state's obligation to prevent land-based marine pollution, which Article 207 of UNCLOS addresses, is particularly challenging for Bangladesh because the Bay of Bengal receives the outflow of the Ganges-Brahmaputra-Meghna river system, which is one of the world's largest river systems and which drains a catchment area of approximately 1.6 million square kilometres, most of which is outside Bangladesh's territorial control. The pollution that reaches the Bay of Bengal from upstream activities in India, Nepal, and Bangladesh itself is a transboundary problem that requires cooperative governance among the riparian states, but there is no effective transboundary river-to-sea pollution governance framework in the region.

3.4 The Obligation of Environmental Impact Assessment

One of the most significant developments in international environmental law since the adoption of UNCLOS has been the progressive elaboration of the obligation of environmental impact assessment (EIA) as a component of the due diligence standard for activities that may cause significant harm to the marine environment. The ICJ first confirmed the customary international law basis of the EIA obligation in the Pulp Mills case of 2010, and the ITLOS elaborated its application in the EEZ context in the 2024 Advisory Opinion.

The EIA obligation requires states to assess, before authorising activities in the marine environment, the potential impacts of those activities on the marine ecosystem, on biodiversity, on other uses of the sea, and on the interests of other states. The assessment must be based on the best available scientific information, must be made transparent and available to potentially affected parties, and must inform the decision whether to authorise the activity and on what conditions.

Bangladesh's current domestic legislation does not contain specific EIA requirements for activities in the EEZ. The Environment Conservation Act of 1995 and the Environmental Impact Assessment Guidelines of 1997 provide a framework for EIA in relation to development projects on land and in coastal areas, but they do not specifically address activities in the EEZ such as offshore oil and gas exploration, offshore aquaculture, marine sand extraction, and the construction of offshore installations. The BBNJ Agreement, which entered into force in January 2026, establishes a framework for EIAs in areas beyond national jurisdiction and sets standards that are relevant by analogy to the governance of EEZ activities. Bangladesh's preparation for implementing the BBNJ Agreement provides an opportunity to develop a comprehensive EIA framework for EEZ activities.

CHAPTER 4: THE RIGHTS OF OTHER STATES IN THE EEZ AND THE REGIME OF CONCURRENT ENTITLEMENTS

4.1 The Freedoms of Navigation and Overflight

One of the most significant aspects of the EEZ regime, and one that distinguishes it most clearly from the territorial sea, is the preservation of substantial rights for other states within the EEZ. Article 58 of UNCLOS provides that in the EEZ, all states enjoy the freedoms of navigation and

overflight, the freedom to lay submarine cables and pipelines, and other internationally lawful uses of the sea related to those freedoms, such as those associated with the operation of ships, aircraft, and submarine cables and pipelines, that are compatible with the other provisions of UNCLOS.

The freedom of navigation in the EEZ is the same freedom that applies on the high seas, subject only to the obligation to comply with the coastal state's laws and regulations adopted in conformity with UNCLOS and other rules of international law. This means that foreign vessels may transit the EEZ of Bangladesh for any purpose without obtaining Bangladesh's consent, provided they comply with applicable laws. The coastal state may regulate navigation in the EEZ only in the specific areas where UNCLOS authorises such regulation, including in safety zones around artificial islands and installations, in designated shipping lanes and traffic separation schemes, and in connection with the coastal state's environmental jurisdiction over vessel-source pollution.

The freedom of overflight is equally broad. Foreign aircraft may overfly Bangladesh's EEZ without obtaining Bangladesh's consent, subject only to the relevant provisions of the Convention on International Civil Aviation. This freedom is of significant practical importance given the volume of international aviation traffic over the Bay of Bengal, which lies on the major air routes between the Indian subcontinent and Southeast Asia.

The relationship between the coastal state's sovereign rights in the EEZ and the navigational freedoms of other states has been the subject of considerable controversy in recent years, particularly in the context of military activities in the EEZ. A number of coastal states, including Bangladesh's neighbour India and the major naval powers' adversary China, have taken the position that foreign military activities in the EEZ, including naval exercises, hydrographic surveys, and intelligence gathering, require the coastal state's consent. The United States and other major maritime powers maintain the opposite position, that military activities are encompassed within the freedom of navigation and overflight in the EEZ and do not require coastal state consent.

The text of UNCLOS does not clearly resolve this controversy. Article 58 preserves the freedoms of navigation and overflight and "other internationally lawful uses of the sea related to those freedoms," which could be read either to include or to exclude military activities depending on the interpretation of "internationally lawful uses." The travaux preparatoires of UNCLOS are inconclusive on the point, reflecting the fact that agreement on the military activities question was not achieved during the negotiations. The practical effect is a persistent conflict between the major naval powers, which conduct regular freedom of navigation operations in disputed maritime areas, and coastal states that assert the right to control military activities in their EEZs.

Bangladesh's position on military activities in its EEZ has not been clearly articulated. Given Bangladesh's relatively modest naval capacity, the practical significance of this issue for Bangladesh is primarily as a receiving state: whether foreign naval vessels may conduct operations in Bangladesh's EEZ without its consent is a question of genuine national security interest, particularly given the increased Great Power naval competition in the Bay of Bengal. Bangladesh's legal and diplomatic position on this question should be clarified and articulated,

and the domestic legal framework should address the applicable rules with sufficient precision to provide guidance to maritime law enforcement authorities.

4.2 The Right to Lay Submarine Cables and Pipelines

Article 58 also preserves in the EEZ the right of all states to lay submarine cables and pipelines, which is one of the freedoms of the high seas under Article 87. Submarine cables are of enormous economic and strategic significance, carrying approximately 95 per cent of international data traffic and financial transactions. Bangladesh's position along major submarine cable routes between Europe, the Middle East, and Southeast Asia means that cables transiting its EEZ are of significant global importance, and the governance of those cables, including their protection from accidental damage and deliberate interference, is an issue of national and international significance.

Bangladesh is connected to the global submarine cable network through the SEA-ME-WE 4 and SEA-ME-WE 5 submarine cable systems, with landing stations at Cox's Bazar. As Bangladesh's digital economy grows and as its reliance on international data connectivity increases, the security and resilience of its submarine cable infrastructure will become an increasingly important concern. The legal framework for the protection of submarine cables in Bangladesh's EEZ, including the criminal liability of persons who damage cables, the rights of cable laying ships, and the environmental requirements for cable routes, needs to be more fully developed than the current legislative framework provides.

The 2024-2025 incidents of suspected deliberate damage to submarine cables in the Baltic Sea, discussed extensively in the academic literature, have drawn international attention to the vulnerability of submarine cable infrastructure to both accidental damage and deliberate attack. The UNCLOS framework for cable protection, including Articles 113 and 114 which require states to criminalise the breaking or injury of cables and to ensure that their vessels take all precautions to prevent cable damage, is relatively rudimentary and does not address the full range of threats to which modern submarine cable infrastructure is vulnerable. Bangladesh should participate in the emerging international discourse on submarine cable protection and should ensure that its domestic legal framework meets or exceeds the UNCLOS minimum standards.

4.3 The Residual Rights of Other States and the Due Regard Obligation

Beyond the specific rights of navigation, overflight, and cable laying, Article 58(1) preserves for other states "other internationally lawful uses of the sea related to those freedoms, such as those associated with the operation of ships, aircraft, and submarine cables and pipelines, and compatible with the other provisions of this Convention." This somewhat open-ended provision creates a residual category of rights that other states retain in the EEZ even after the coastal state's sovereign rights are acknowledged.

The precise scope of these residual rights has been contested in a number of international disputes and academic debates. The question of whether military surveys (hydrographic surveys conducted by naval vessels for military purposes) fall within the freedoms preserved by Article

58 is one example of a residual rights question that has not been authoritatively resolved. The question of whether vessels engaged in scientific research may, without coastal state consent, conduct research in the EEZ under the guise of navigation is another. And the question of whether the construction and maintenance of floating offshore structures by commercial entities, without coastal state authorisation, falls within the freedoms of the EEZ or requires Article 60 authorisation is yet another area of legal uncertainty.

For Bangladesh as a coastal state, the due regard obligation of Article 56(2), which requires the coastal state to give due regard to the rights and duties of other states in the EEZ, and the corresponding due regard obligation of Article 58(3), which requires other states to have due regard to the rights and duties of the coastal state in the EEZ, create a framework of mutual accommodation. The due regard standard does not mean that either side's rights automatically prevail; it means that each must take the other's rights into account and minimise conflicts where possible. In the context of Bangladesh's EEZ governance, this means that Bangladesh's conservation regulations, environmental requirements, and safety measures must be designed to achieve their legitimate purposes with the minimum necessary interference with the rights of other states in the EEZ.

CHAPTER 5: THE EEZ FISHERIES GOVERNANCE REGIME IN DEPTH - LAW, SCIENCE, AND THE CHALLENGE OF SUSTAINABLE MANAGEMENT IN BANGLADESH

5.1 The Bay of Bengal Fisheries: Ecological Context and Governance Challenges

The Bay of Bengal fisheries represent one of the world's most productive and most important marine ecosystems, supporting the livelihoods of approximately 200 million people across the littoral states and providing a critical source of protein for hundreds of millions more. The bay's extraordinary biological productivity is driven by the massive freshwater and nutrient input from the Ganges-Brahmaputra-Meghna river system, by the seasonal monsoon-driven upwelling patterns, by the extensive coastal wetlands including the Sundarbans mangrove system, and by the complex interaction of ocean currents, sea temperatures, and salinity gradients that characterise the bay's unique oceanographic environment.

Within Bangladesh's EEZ alone, approximately 457 marine fish species have been documented, along with numerous species of shrimp, crabs, lobsters, cephalopods, and other invertebrates. The most commercially important species include hilsa shad (Tenualosa ilisha), which accounts for approximately 65 per cent of Bangladesh's marine fish production by value and which is not only the nation's most economically significant fish but its most culturally iconic, being central to Bangladeshi culinary, social, and literary identity. Other commercially important species include Indian mackerel, various species of tuna, ribbon fish (Trichiurus lepturus), sea bass, pomfret, and multiple species of penaeid shrimp, which are Bangladesh's primary marine export commodity.

The fisheries sector in Bangladesh is characterised by extreme social complexity and by a governance gap of alarming proportions. Approximately 1.8 million people are directly employed in marine fisheries, and an estimated 20 million people are involved in fisheries-dependent livelihoods across the supply chain. The sector is dominated by small-scale artisanal fishers using non-motorised or small-motorised boats, who account for the majority of the labour force and fish primarily in the territorial sea and inner EEZ. Larger industrial trawlers, owned by a much smaller number of operators, fish in the outer EEZ and are responsible for a disproportionate share of fishing pressure on deep-water species and on the bycatch of non-target species including juvenile fish, sea turtles, dolphins, and sharks.

The governance challenges are immense. Bangladesh has approximately 39,000 mechanised fishing boats, many of which exceed the officially permitted size, and an unknown but large number of non-mechanised boats. The monitoring, control, and surveillance of this fleet across 118,813 square kilometres of EEZ is beyond the current capacity of the Department of Fisheries, which lacks the vessels, the personnel, the technology, and the legal authority to effectively enforce the fisheries regulations. IUU fishing by foreign vessels, particularly from India, Myanmar, and Southeast Asian countries, adds an additional layer of pressure that the current enforcement system cannot address.

5.2 The Hilsa Governance Challenge: A Case Study in Transboundary Fisheries Law

The hilsa fishery deserves specific and extended treatment in any commentary on Bangladesh's maritime fisheries law because it illustrates, with particular clarity, both the legal complexity of transboundary fisheries governance under UNCLOS and the specific institutional failures that prevent Bangladesh from fulfilling its international obligations and protecting its most important marine resource.

Hilsa is a highly migratory diadromous species that spawns in the fresh waters of the rivers of the Bengal Delta, including the Padma (Ganges), Jamuna (Brahmaputra), and Meghna rivers, migrates to the sea as juveniles and adults, and returns to the rivers to spawn. Its life cycle therefore spans Bangladesh's inland freshwaters, its territorial sea and EEZ, and the EEZs of India and Myanmar, making it a "straddling stock" within the meaning of Article 63(1) of UNCLOS and also a species with characteristics similar to anadromous species under Article 66.

Bangladesh is the world's largest hilsa-producing nation, accounting for approximately 75 per cent of global hilsa production. The management of hilsa is therefore not merely a domestic fisheries governance issue for Bangladesh; it is a matter of global biodiversity significance and an issue on which Bangladesh bears primary international responsibility. The Bangladesh government has made significant efforts to conserve hilsa through a range of measures including seasonal fishing bans during the hilsa spawning season (Jatka conservation), size limits on hilsa catch, and closure of key hilsa nursery areas. These measures have had some success in maintaining or partially recovering hilsa populations, but they are not grounded in a systematic stock assessment framework and their enforcement is inconsistent.

The transboundary dimension of hilsa governance requires coordination between Bangladesh, India, and Myanmar under UNCLOS Article 63(1). Some limited bilateral cooperation between

Bangladesh and India on hilsa management has taken place through fisheries working groups under the bilateral framework, but there is no trilateral or regional mechanism specifically for hilsa governance, and the cooperation that exists is informal and ad hoc rather than legally structured. The development of a formal trilateral or BIMSTEC-framework hilsa management agreement, with legally binding commitments on allowable catch, seasonal closures, and data sharing, would be a significant advance in the governance of this critical resource.

5.3 The Marine Fisheries Ordinance of 1983: A Critical Legislative Analysis

The Marine Fisheries Ordinance of 1983 (Ordinance No. XXXV of 1983, as amended) is the principal domestic legislation governing marine fisheries in Bangladesh. It was promulgated by the government of H.M. Ershad during the period of martial law administration and has remained in force, with amendments, for over four decades. Despite its longevity, it is widely recognised among fisheries law experts and practitioners as fundamentally inadequate to the demands of contemporary fisheries governance. The following is a systematic analysis of its key provisions and their deficiencies.

The Ordinance's jurisdictional provisions are those most directly related to the UNCLOS framework. Section 3 defines the marine fisheries area as the area within 200 nautical miles of the baseline of Bangladesh, which corresponds to the EEZ, and as the exclusive zone for fishing by Bangladesh-registered fishing vessels. This provision asserts Bangladesh's exclusive fishing rights in the EEZ but does not do so in terms of the UNCLOS framework, which speaks of "sovereign rights" rather than "exclusive zone." The conceptual mapping between the Ordinance and UNCLOS is imprecise in a way that can create interpretive difficulties.

Section 4 of the Ordinance empowers the government to make rules for the management, conservation, and development of fisheries in the marine fisheries area. This enabling power is broad but has been exercised in a piecemeal and inadequate manner. The Marine Fisheries Rules of 1983 and subsequent amendments address matters such as fishing vessel registration and licensing, net mesh size restrictions, closed season regulations, and the prohibition of fishing in reserved areas. However, these rules are not integrated into a comprehensive management framework, are not based on stock assessment science, and do not reflect the ecosystem approach to fisheries management that is now the international standard.

Section 10 addresses offences and penalties, providing for imprisonment of up to six months or a fine for violations of the Ordinance and Rules. These penalties are grossly inadequate to deter IUU fishing by foreign fleets, which can generate revenues many times the value of the prescribed fine from a single fishing trip. The 2015 ITLOS Advisory Opinion confirmed that sanctions for IUU fishing must be sufficient to deny the economic benefits of non-compliance, a standard that Bangladesh's current penalty regime clearly fails to meet. The inadequacy of sanctions is one of the primary reasons why the Ordinance has not been effective in deterring IUU fishing, and it must be fundamentally revised in any comprehensive fisheries law reform.

The Ordinance's provisions on foreign fishing access are minimal. Section 7 empowers the government to grant licences to foreign fishing vessels in such number and subject to such terms and conditions as it thinks fit, but this broad discretion is not structured by any criteria related to

allowable catch, surplus determination, or the requirements of UNCLOS Article 62. The absence of a transparent, scientifically based framework for foreign fishing access creates risks of corruption and mismanagement that are difficult to prevent in the absence of clear legal standards.

Most significantly, the Ordinance contains no provisions for stock assessment, fisheries management plans, monitoring, control, and surveillance, data collection and reporting, or adaptive management. These are the essential components of a modern fisheries management system, and their absence from the foundational legislation means that Bangladesh's fisheries governance lacks the scientific and operational foundation that effective management requires.

5.4 The IUU Fishing Crisis and the ITLOS Advisory Opinion of 2015

Illegal, unreported, and unregulated fishing is one of the most serious challenges to marine fisheries governance globally, and Bangladesh's EEZ is seriously affected by it. The FAO estimates that IUU fishing accounts for between 11 and 26 million tonnes of fish caught globally each year, representing a loss of between 10 and 23 billion US dollars annually. In the Bay of Bengal, IUU fishing by fleets from India, Myanmar, Thailand, and other countries is a persistent and serious problem that depletes fish stocks that Bangladesh's fishing communities depend upon, deprives Bangladesh of the full benefit of its EEZ resources, and undermines the conservation measures that Bangladesh has in place.

The ITLOS Advisory Opinion of 2 April 2015 in the Sub-Regional Fisheries Commission (SRFC) case (ITLOS Case No. 21) is the most authoritative international legal ruling on the obligations of states with respect to IUU fishing in the EEZ. The Tribunal was asked by the West African SRFC, an organisation comprising seven West African coastal states, for an advisory opinion on several questions relating to the responsibilities of flag states whose vessels conduct IUU fishing in the EEZs of SRFC member states. The Tribunal's Opinion, drawing on Articles 58(3), 62(4), 94, and 192 of UNCLOS, held that flag states have due diligence obligations to ensure that their vessels do not engage in IUU fishing in the EEZs of coastal states, and that a flag state could be held liable for failure to comply with those obligations.

The Opinion is significant for Bangladesh for multiple reasons. First, it confirms that Bangladesh has not only the right but the legal authority under UNCLOS to hold foreign states responsible for IUU fishing by their vessels in Bangladesh's EEZ, to the extent that those vessels are fishing in violation of Bangladesh's laws and regulations adopted in conformity with UNCLOS. Second, it confirms that the coastal state's laws and regulations on fisheries constitute part of the legal order of the seas and must be respected by flag states and their vessels. Third, it establishes that due diligence is an evolving standard, shaped by scientific progress and by the level of risk, and that sanctions for IUU fishing must be sufficient to remove the benefits of non-compliance and to deter future violations.

ITLOS Judge Kathy-Ann Brown, speaking at the Judicial Symposium 2025 in Honiara in June 2025, reaffirmed the significance of the 2015 Advisory Opinion for contemporary fisheries governance, emphasising that due diligence obligations for flag states are not fixed but evolve with scientific progress and enforcement expectations, and that states may face legal liability

where they fail to meet these standards. This emphasis on the dynamic character of the due diligence standard is directly relevant to Bangladesh's obligations as both a coastal state and, for hilsa and other migratory species, a flag state whose vessels fish in the waters of neighbouring countries.

For Bangladesh's domestic legal reform, the implications of the 2015 SRFC Advisory Opinion are clear. The Marine Fisheries Ordinance must be revised to include sanctions for IUU fishing that are adequate to deter the activity and to deny its economic benefits. Bangladesh must establish effective monitoring, control, and surveillance systems, including vessel monitoring systems (VMS) for all fishing vessels operating in its EEZ. Bangladesh must develop the institutional capacity to detect, investigate, and prosecute IUU fishing incidents, including by foreign vessels. And Bangladesh must use the framework of the Advisory Opinion to press flag states whose vessels conduct IUU fishing in Bangladesh's EEZ for compliance with their due diligence obligations.

5.5 The UN Fish Stocks Agreement and its Application to Bangladesh

The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, known as the UN Fish Stocks Agreement (UNFSA), was adopted in 1995 and entered into force in 2001. It elaborates and expands upon the fisheries provisions of UNCLOS, particularly with respect to straddling and highly migratory fish stocks, and it establishes a comprehensive framework for their conservation and management in both the EEZ and the high seas.

Bangladesh ratified the UNFSA in 2001, simultaneous with its ratification of UNCLOS. The UNFSA imposes several obligations on Bangladesh that go beyond the requirements of UNCLOS. It requires Bangladesh to apply the precautionary approach to fisheries management, under which, where information is uncertain, unreliable, or inadequate, states shall apply the precautionary approach rather than using the absence of adequate scientific information as a reason to postpone or fail to take conservation and management measures. It requires Bangladesh to adopt conservation and management measures for straddling and highly migratory stocks that are compatible with, and no less effective than, the measures applied to the same stocks by relevant regional fisheries management organisations (RFMOs). And it requires Bangladesh to cooperate in the establishment of and participation in such organisations where they do not already exist.

Bangladesh's implementation of the UNFSA is inadequate. The domestic legal framework does not reflect the precautionary approach to fisheries management; the Marine Fisheries Ordinance does not require the application of precautionary principles in conservation decisions, and the management measures in place for straddling stocks like hilsa and highly migratory species like tuna are not designed to comply with RFMO standards or with the specific requirements of the UNFSA. A comprehensive fisheries law reform must incorporate the UNFSA obligations into the domestic legal framework.

5.6 Artisanal Fisheries, Social Justice, and the Rights of Traditional Coastal Communities

The governance of Bangladesh's marine fisheries cannot be adequate if it addresses only the formal regulatory framework and ignores the social dimensions of the fisheries sector. The vast majority of the people who depend on marine fisheries in Bangladesh are small-scale, artisanal fishers, many of whom are among the poorest and most marginalised members of Bangladeshi society. Their livelihoods, their communities, and their cultural identities are bound up with the sea in ways that are not captured by the conventional categories of resource management law.

The 1995 FAO Code of Conduct for Responsible Fisheries, in its Chapter 7, specifically addresses small-scale fisheries and calls on states to give full consideration to the interests and livelihoods of small-scale fisheries and to protect them from excessive competition from large-scale industrial fisheries. The FAO Voluntary Guidelines for Small-Scale Fisheries, adopted in 2015, elaborate this principle and provide more specific guidance on the governance of small-scale fisheries in relation to access rights, co-management, social protection, and gender equality.

Bangladesh's fisheries governance has historically prioritised the interests of larger, industrial operators over those of artisanal fishers. The allocation of fishing licences, the design of fishing regulations, and the enforcement of those regulations have not been systematically oriented toward the protection of small-scale fishers' rights or the promotion of their livelihoods. Indeed, there is evidence that large-scale trawlers operating in inshore waters that are designated as reserved for small-scale fishing have driven artisanal fishers out of their traditional fishing grounds, with devastating consequences for fishing community incomes and food security.

A comprehensive reform of Bangladesh's fisheries law must address the rights of small-scale fishers explicitly, through provisions for exclusive or preferential access rights in defined inshore areas, through the mandatory exclusion of large-scale trawlers from those areas, through the establishment of co-management mechanisms that give fishing communities a formal role in fisheries governance decisions, and through social protection provisions for fishers who are displaced or whose livelihoods are affected by conservation measures or structural changes in the fisheries.

5.7 Gender, Fisheries, and the Invisibility of Women in Maritime Governance

The gendered dimensions of fisheries governance in Bangladesh deserve particular attention in a commentary that takes social justice seriously. Women play essential roles in Bangladesh's fisheries sector, but they are almost entirely absent from the formal governance structures that determine how fisheries resources are managed and how their benefits are distributed.

Women in coastal fishing communities in Bangladesh are primarily involved in post-harvest activities, including processing, drying, and marketing fish; in the management of household finances and the provision of credit to fishers; and in the maintenance of social networks that provide resilience to fishing communities in the face of natural disasters, seasonal income fluctuations, and other shocks. Women also participate directly in near-shore fishing in some communities, particularly in the collection of shellfish and seaweed from intertidal areas. Despite the centrality of their contribution to the fisheries economy, women have no formal representation in fisheries management bodies, are not recognised as licence holders or registered fishers under the Marine Fisheries Ordinance, and are typically excluded from the

benefits of fisheries development programmes such as boat subsidies, gear assistance, and fisheries credit schemes.

The FAO Voluntary Guidelines for Small-Scale Fisheries explicitly recognise the importance of gender equality in fisheries governance and call for the meaningful participation of women in fisheries management decision-making, the recognition of women's roles throughout the fisheries value chain, and the equitable distribution of benefits to women. The Beijing Platform for Action and multiple subsequent international instruments on gender equality are relevant to the design of fisheries governance frameworks. Bangladesh's fisheries law reform must incorporate gender mainstreaming as a foundational principle, through specific provisions for women's participation in co-management bodies, through the recognition of women's roles in post-harvest activities, and through the design of development programmes that specifically address women's needs and rights in the fisheries sector.

5.8 Climate Change and the Future of Bay of Bengal Fisheries: Legal and Governance Implications

The impacts of climate change on Bay of Bengal fisheries are already significant and will become dramatically more severe in the coming decades. Ocean warming is causing northward range shifts in many commercially important fish species, disrupting the seasonal and spatial patterns on which artisanal fishers have built their fishing knowledge and livelihoods over generations. Ocean acidification, driven by the absorption of excess atmospheric CO2 by seawater, is affecting the shell formation and survival of commercially important shellfish species. Changes in monsoon patterns are affecting the timing and intensity of seasonal upwelling events that drive the biological productivity of the bay. And sea-level rise and intensification of tropical cyclones are causing coastal erosion and inundation that is destroying the mangrove habitats that serve as nursery grounds for juvenile fish and shrimp.

The 2024 ITLOS Advisory Opinion, in confirming that anthropogenic greenhouse gas emissions constitute marine pollution under UNCLOS, provides a legal basis for arguing that the states responsible for the majority of global greenhouse gas emissions have obligations under international law to compensate or assist the states and communities that suffer the marine environmental consequences of those emissions. For Bangladesh, this legal framework potentially supports claims for climate adaptation assistance and loss and damage compensation in the fisheries sector, though the practical mechanisms for enforcing such claims remain to be developed.

For domestic governance, the implications of climate change for fisheries management are significant. A management framework based on historical fish stock data will become rapidly obsolete as climate change alters species distributions and abundances. Adaptive management, which continuously updates management measures in response to new environmental conditions and scientific information, is not merely best practice under climate change; it is a legal requirement, as the due diligence standard confirmed by the ITLOS requires that conservation measures be updated as circumstances and knowledge change. Bangladesh's fisheries governance framework must incorporate climate change adaptation as a core principle, and the legislative

framework must provide the institutional flexibility to adjust management measures as needed without requiring parliamentary action for every adjustment.

CHAPTER 6: NON-LIVING RESOURCES IN THE EEZ - HYDROCARBONS, DEEP-SEA MINERALS, AND OFFSHORE ENERGY

6.1 The Legal Framework for Offshore Hydrocarbon Exploration and Exploitation

The sovereign rights of the coastal state over non-living resources in the EEZ, established by UNCLOS Article 56(1)(a), encompass the hydrocarbon resources of the water column and of the seabed and subsoil. In practice, the most commercially significant hydrocarbon resources are those of the seabed and subsoil, which are also subject to the continental shelf regime, and the two regimes are effectively merged for the area within the 200-mile limit of the EEZ. The coastal state's sovereign rights over offshore hydrocarbons are exclusive: no other state or entity may explore or exploit those resources without the coastal state's authorisation, and the state may establish the terms and conditions of that authorisation through its domestic legislation and contract terms.

Bangladesh's offshore hydrocarbon history is characterised by significant potential but underwhelming realisation. The presence of substantial natural gas reserves in the Bay of Bengal has been known since the 1970s, when early exploration identified the Haripur and Rashidpur fields onshore and the Sangu field offshore. The Sangu gas field, located approximately 35 kilometres off the coast of Chittagong in shallow water, was Bangladesh's only producing offshore gas field from its discovery in 1996 until its commercial depletion in the mid-2010s. Its production history demonstrated both the commercial potential of Bangladesh's offshore gas resources and the challenges of managing that potential effectively.

Since the depletion of Sangu, Bangladesh's offshore hydrocarbon sector has been largely stagnant. Multiple offshore exploration rounds have been conducted, and a number of Production Sharing Contracts have been awarded to international companies including Shell, Conoco Phillips, and Chevron, but exploration activities have been hampered by technical challenges, administrative delays, and disputes over contract terms. The deep-water blocks in Bangladesh's EEZ, which have the greatest potential for major new gas discoveries, have been the subject of particular difficulty: the combination of deep water, complex geology, and uncertain regulatory and contract frameworks has deterred the large international companies that have the capital and technology required for deep-water exploration.

6.2 The Production Sharing Contract Model: Legal Analysis and Reform Needs

The Production Sharing Contract is the standard legal instrument for offshore hydrocarbon development in Bangladesh. Under the PSC model, the state retains ownership of the hydrocarbon resources while granting to the operator, typically a private international company, the right to explore for and develop those resources over a defined area for a defined period, in exchange for a share of any production. The operator bears the costs and risks of exploration and

development; if commercial production is achieved, it recovers its costs from a defined share of production (cost recovery oil or gas) and then splits the remaining production (profit oil or gas) with the national oil company Petrobangla according to predetermined ratios.

The PSC terms offered by Bangladesh have been criticised by international investors as insufficiently attractive relative to comparable opportunities in neighbouring countries and elsewhere in the Indo-Pacific region. Key issues include the cost recovery ceiling, which limits the amount of costs the operator can recover in any given period and creates cash flow challenges; the profit-sharing ratios, which may not adequately reward the risk assumed by the operator in deep-water exploration; the mandatory participation of Petrobangla in all offshore ventures, which creates contractual and operational complications; and the environmental standards required of operators, which in some cases are less specific than international best practice standards and in others are more onerous than internationally competitive terms would require.

The legal governance of the PSC framework sits at the intersection of contract law, energy law, administrative law, and international investment law. PSCs are commercial contracts but they are also exercises of the state's sovereign rights over natural resources, and they are subject to the constraints imposed by investment protection treaties, domestic administrative law, and the overarching framework of UNCLOS. A comprehensive reform of Bangladesh's offshore hydrocarbon legal framework must address all of these dimensions, improving the commercial attractiveness of the PSC terms while strengthening the environmental and social protection provisions and ensuring that the framework complies with Bangladesh's international legal obligations.

6.3 Offshore Renewable Energy: An Emerging Frontier

The development of offshore renewable energy, particularly offshore wind power, has emerged as one of the most dynamic sectors of the global energy economy in the past decade. Global installed offshore wind capacity exceeded 75 gigawatts by 2024, with the United Kingdom, China, Germany, Denmark, and the Netherlands as the leading markets. The development of floating offshore wind technology has opened the possibility of offshore wind development in deep-water areas previously inaccessible to fixed-bottom turbines, dramatically expanding the geographical range of offshore wind development.

Bangladesh's potential for offshore wind development is substantial, though not yet fully assessed. Initial resource assessments suggest that the southern areas of Bangladesh's EEZ, where water depths are greater and wind speeds higher, may have commercially viable offshore wind resources. The development of even a relatively modest offshore wind capacity of 1 to 5 gigawatts would make a significant contribution to Bangladesh's electricity generation capacity, which is currently dominated by natural gas and facing increasing fuel supply constraints as domestic gas resources deplete.

The legal framework for offshore renewable energy development in Bangladesh's EEZ is essentially non-existent. The 2021 Amendment Act does not address offshore renewable energy. There is no specific legislation or regulatory framework for the licensing, environmental impact

assessment, grid connection, or decommissioning of offshore wind installations. This legal vacuum is a significant barrier to investment in offshore renewable energy and must be addressed as part of a comprehensive maritime law reform.

The development of an offshore renewable energy legal framework for Bangladesh can draw on the established frameworks of the United Kingdom, Germany, Denmark, and other advanced offshore wind markets, which provide models for the licensing process, the environmental and safety standards applicable to offshore wind installations, the ownership and revenue arrangements, and the decommissioning requirements. However, these models must be adapted to Bangladesh's specific legal system, institutional capacity, and development priorities, and the framework must be designed to maximise the employment and local content benefits of offshore wind development for Bangladesh's coastal communities.

6.4 Marine Spatial Planning: The Legal Architecture for Integrated EEZ Governance

One of the most significant gaps in Bangladesh's maritime governance framework is the absence of a legal framework for marine spatial planning (MSP). MSP is the process by which public authorities analyse and allocate the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives. It is the marine equivalent of land-use planning, and it provides the framework within which competing uses of the maritime space, including shipping, fishing, offshore energy, tourism, aquaculture, cable laying, and conservation, can be coordinated and managed in a coherent and integrated way.

The UNESCO Intergovernmental Oceanographic Commission (IOC) defines MSP as "a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process." The IOC has developed a step-by-step framework for MSP that has been adopted by numerous countries in the development of national MSP plans, and this framework provides useful guidance for Bangladesh.

The EU Maritime Spatial Planning Directive of 2014 established MSP as a legal requirement for all EU member states with marine waters, requiring them to develop and implement MSP plans that address the different uses of the sea and that provide a framework for investment decisions. Several EU member states, including Germany, Belgium, the Netherlands, and the United Kingdom, have developed sophisticated MSP frameworks that have informed investment in offshore wind energy, guided the designation of marine protected areas, and provided legal certainty for fishing and other maritime activities.

Bangladesh's mspglobal2030.org profile, maintained by the global MSP network, notes that Bangladesh has gained rights to its EEZ and has articulated blue economy ambitions but has yet to establish a comprehensive marine spatial planning framework. The development of such a framework, with a clear legal basis in domestic legislation, is one of the most urgent priorities of Bangladesh's maritime law reform agenda. An MSP framework would provide the spatial and temporal foundation for the integrated governance of Bangladesh's EEZ, enabling the coordinated development of fisheries, offshore energy, shipping, aquaculture, and conservation activities in a way that minimises conflicts, maximises synergies, and ensures that the overall

development of the EEZ is consistent with Bangladesh's ecological, economic, and social objectives.

CHAPTER 7: ENFORCEMENT JURISDICTION IN THE EEZ - LAW, JURISPRUDENCE, AND THE LIMITS OF COASTAL STATE POWER

7.1 The Architecture of EEZ Enforcement Under UNCLOS

The enforcement of the coastal state's laws and regulations in the EEZ is governed by a complex set of provisions in UNCLOS that attempt to balance the coastal state's need for effective enforcement of its sovereign rights against the interests of flag states in the protection of their vessels and the freedom of navigation. The tension between these interests is one of the most politically sensitive aspects of the EEZ regime and has given rise to a significant body of international jurisprudence.

Article 73 of UNCLOS is the foundational provision on enforcement of fisheries laws in the EEZ. It provides that the coastal state may, in exercising its sovereign rights to explore, exploit, conserve, and manage the living resources in the EEZ, take such measures, including boarding, inspection, arrest, and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention. However, Article 73 also imposes several important constraints on the exercise of this enforcement power. Arrested vessels and their crews must be promptly released upon the posting of a reasonable bond or other security. Penalties for violations of fisheries laws may not include imprisonment absent agreement with the flag state, nor any other form of corporal punishment. The flag state must be promptly notified of the arrest and of the penalties subsequently imposed.

The prompt release obligation under Article 73(2) has given rise to a significant jurisprudence at ITLOS, which has jurisdiction over prompt release applications under Article 292 of UNCLOS. ITLOS has decided numerous prompt release cases since its establishment, developing a body of jurisprudence on what constitutes a "reasonable bond" for the release of arrested fishing vessels, on the obligations of the coastal state to promptly release vessels upon payment of the bond, and on the remedies available to flag states when coastal states fail to comply with the prompt release obligation. This jurisprudence is directly relevant to Bangladesh's fisheries enforcement practices, and Bangladesh must ensure that its enforcement procedures comply with the ITLOS's standards on prompt release.

7.2 The Use of Force in Maritime Law Enforcement: The San Remo and M/V Saiga Standards

The use of force by maritime law enforcement vessels in the exercise of the coastal state's enforcement jurisdiction in the EEZ is subject to strict standards under international law. The fundamental principles are proportionality and necessity: force may be used only to the extent strictly necessary to achieve the legitimate law enforcement objective, and any use of force must be preceded by a warning and an opportunity to comply with lawful enforcement orders.

These principles were elaborated by ITLOS in the M/V Saiga (No. 2) case of 1999, in which the Tribunal addressed Guinea's use of force in arresting a vessel within its EEZ. The Tribunal held that considerations of humanity must apply in the law of the sea, just as they do in other areas of international law, and that the use of force in maritime law enforcement must comply with international standards, including the giving of appropriate warning before force is used and the avoidance of endangering human life. The Tribunal also held that the right to "hot pursuit" under Article 111 of UNCLOS, which allows a coastal state to pursue a vessel that has violated its laws from the zone in which the violation occurred onto the high seas, must be continuous and must begin when the vessel is within the relevant zone.

For Bangladesh's maritime law enforcement, the M/V Saiga standards impose important constraints on the practices of the Bangladesh Navy and Coast Guard in the enforcement of fisheries and other EEZ regulations. The training of maritime law enforcement personnel in the applicable international legal standards, the development of operational procedures that comply with those standards, and the establishment of accountability mechanisms for complaints of excessive use of force are all important elements of Bangladesh's maritime law enforcement governance that the current legislative and institutional framework does not adequately address.

7.3 The Boarding and Inspection Regime and the Rights of Fishing Vessel Operators

When a coastal state enforcement vessel boards a foreign fishing vessel suspected of violating EEZ fisheries regulations, the boarding and inspection must be conducted in accordance with the requirements of UNCLOS and of international human rights law. The detained vessel's crew have rights to fair treatment, to communication with the flag state, and to prompt release upon the posting of a reasonable bond. The inspection must be limited to what is necessary to verify compliance with the applicable regulations, and evidence obtained must be handled in accordance with the standards required for subsequent judicial proceedings.

Bangladesh's domestic legal framework does not specify in detail the procedures for boarding and inspection of foreign fishing vessels in the EEZ, the rights of detained crews, or the standards for evidence collection and handling. This creates legal uncertainty that can lead to abuses in enforcement operations and to legal challenges to the validity of enforcement actions. A comprehensive maritime law reform must address these procedural requirements explicitly, drawing on the international best practices developed in advanced maritime enforcement jurisdictions and on the jurisprudence of ITLOS and other international tribunals.

The development of a maritime law enforcement code of conduct for the Bangladesh Coast Guard and Navy, setting out in specific operational terms the legal standards and procedures to be followed in all enforcement operations in the EEZ, would be an important practical complement to the legislative reform. Such codes of conduct have been developed by several Pacific island states in the context of their fisheries enforcement operations, and they provide useful models for Bangladesh.

7.4 Hot Pursuit: The Doctrinal Framework and its Application to Bangladesh

The right of hot pursuit under Article 111 of UNCLOS allows the coastal state to pursue a vessel that has committed a violation of the coastal state's laws in the territorial sea, contiguous zone, EEZ, or continental shelf, and to continue that pursuit onto the high seas for the purpose of arrest. The pursuit must be begun while the pursued vessel is still within the relevant zone, it must be continuous (it cannot be interrupted and resumed), and it must cease when the vessel enters the territorial sea of its flag state or a third state.

The right of hot pursuit is practically important for Bangladesh's fisheries enforcement because IUU fishing vessels often attempt to evade arrest by fleeing toward the high seas or toward the territorial waters of neighbouring states when they see a Bangladesh enforcement vessel approaching. The ability to continue pursuit onto the high seas is essential to effective enforcement, but it requires that the enforcement vessel maintain the pursuit continuously from the moment it begins, which in practice requires communication and coordination between the initial enforcement vessel and any other enforcement assets that take over the pursuit.

Bangladesh's current enforcement capacity limits the practical use of hot pursuit. The Bangladesh Coast Guard's vessel fleet is primarily designed for coastal patrol and is not fully capable of extended high-seas pursuit operations. The development of a more capable maritime enforcement fleet, with vessels adequate for extended operations in the outer EEZ and on the high seas, is a necessary complement to the legislative reform of the fisheries enforcement framework.

CHAPTER 8: THE EEZ AND THE LAW OF MARITIME DELIMITATION: APPLYING THE LESSONS OF BANGLADESH'S ARBITRATIONS

8.1 Equitable Delimitation and the EEZ: The Evolution of the Jurisprudence

The delimitation of the EEZ between states with adjacent or opposite coasts is governed by UNCLOS Article 74, which provides that delimitation shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution. The reference to achieving an "equitable solution" rather than applying a specific method distinguishes the EEZ and continental shelf delimitation regime from the territorial sea regime, which prescribes the equidistance method as the default rule under Article 15, and it gives international tribunals broad discretion to consider relevant circumstances in shaping the delimitation outcome.

The jurisprudential evolution of EEZ delimitation, from the ICJ's North Sea Continental Shelf cases of 1969 through the ITLOS Bangladesh/Myanmar judgment of 2012 and the PCA Bangladesh/India award of 2014, has progressively refined the methodology and the concept of relevant circumstances. The equidistance-relevant circumstances (ERC) methodology, which begins with the construction of a provisional equidistance line and then examines whether relevant circumstances require its adjustment to achieve an equitable result, is now firmly established as the standard approach in international EEZ delimitation jurisprudence.

The Bangladesh cases contributed several specific developments to the jurisprudential evolution of EEZ delimitation. The treatment of concavity as a relevant circumstance justifying adjustment of the equidistance line was not entirely novel, having been anticipated in the North Sea Continental Shelf cases, but the Bangladesh cases applied it in a more specific and mathematically precise way than earlier cases, providing clearer guidance on the degree of adjustment warranted by concavity in different geographical configurations. The treatment of St. Martin's Island, giving it less than full effect as a basepoint, developed the jurisprudence on the weighting of small islands in delimitation calculations. And the outer continental shelf delimitation in both cases broke new ground in a technically complex area that had not previously been the subject of international judicial decision.

For Bangladesh's ongoing maritime governance, the jurisprudential legacy of the two arbitrations is important in two respects. First, the equitable principles applied in the arbitrations provide the normative framework within which any future maritime boundary disputes, including issues relating to the grey area and the outer continental shelf, must be addressed. Second, the cases have established Bangladesh as a state with sophisticated international maritime law capabilities and with a track record of using international arbitration successfully, which strengthens Bangladesh's position in future diplomatic negotiations and legal proceedings.

8.2 The Grey Area Problem: Legal Analysis and Governance Implications

The grey area created by the Bangladesh-India PCA award of 2014 is one of the most legally complex and practically significant aspects of Bangladesh's current maritime governance challenge. As described in Part One, the grey area is a maritime space in the Bay of Bengal where Bangladesh has continental shelf rights over the seabed and subsoil, while India has EEZ rights in the water column above. This dual jurisdiction creates governance challenges that have no straightforward resolution in the existing UNCLOS framework.

The grey area arises from the interaction of two different delimitation methodologies. The EEZ boundary between Bangladesh and India was delimited on the basis of equitable principles applicable to EEZ delimitation, with significant adjustment of the equidistance line in Bangladesh's favour to account for the concavity of Bangladesh's coast. The outer continental shelf boundary was delimited on different principles, reflecting the geological structure of the continental margin rather than geographical equity considerations. The resulting asymmetry between the two boundaries creates the grey area in which Bangladesh has shelf rights but India has EEZ rights.

International maritime law does not provide a clear solution to the grey area problem. The ITLOS and PCA awards that created the grey area did not address the governance implications of the resulting jurisdictional overlap, and there is no established international practice for governing such areas. Possible approaches include: a bilateral agreement between Bangladesh and India establishing a joint management zone in the grey area, under which the two states exercise their respective rights cooperatively; a series of bilateral protocols addressing specific governance questions, such as the treatment of hydrocarbons that straddle the seabed boundary or the jurisdiction over environmental incidents that affect both the seabed and the water column;

or a unilateral legislative approach by each state establishing its own interpretation of its rights in the area, which risks conflict if the two states' interpretations are incompatible.

The grey area problem is a reminder that international arbitration awards, while legally binding, do not necessarily resolve all of the practical governance challenges that arise from maritime boundary delimitation. The post-award phase of maritime governance requires careful diplomatic management and, ultimately, the negotiation of cooperative governance arrangements that give practical effect to the rights and obligations established by the awards. Bangladesh's legal and diplomatic engagement with India on the grey area issue should be a priority, and the domestic legal framework should provide the institutional basis for the management of Bangladesh's rights in this complex jurisdictional space.

8.3 The Outer Continental Shelf and CLCS Proceedings

Bangladesh's submission to the Commission on the Limits of the Continental Shelf, made in 2011, claims an outer continental shelf extending beyond the 200-mile EEZ limit. The CLCS's review of this submission, and the eventual issuance of recommendations on the outer limits of Bangladesh's continental shelf, will determine the full extent of Bangladesh's sovereign rights over the seabed and subsoil in the Bay of Bengal.

The outer continental shelf, if established in accordance with Bangladesh's claim, would extend Bangladesh's seabed resource rights significantly beyond the 200-mile EEZ limit, encompassing an area of seabed that could contain substantial hydrocarbon reserves and potentially polymetallic nodule or cobalt-rich crust deposits. The governance of these outer shelf resources is governed by Part VI of UNCLOS (Articles 76 to 85), which provides that the coastal state exercises sovereign rights over the seabed and subsoil of the continental shelf for the purpose of exploring it and exploiting its natural resources. The water column above the outer continental shelf, which is part of the high seas rather than the EEZ, remains open to navigation and overflight by all states.

The domestic legal framework for the governance of Bangladesh's outer continental shelf resources is inadequate. The 2021 Amendment Act acknowledges the outer continental shelf claim but does not establish specific governance provisions for it. In particular, the Act does not address the royalty and revenue arrangements that apply to resource exploitation on the outer continental shelf, which differ from those applicable within the EEZ in that UNCLOS Article 82 requires the coastal state to make payments or contributions in kind to the International Seabed Authority in respect of exploitation of the non-living resources of the continental shelf beyond 200 nautical miles. This obligation is not reflected in Bangladesh's domestic law.

CHAPTER 9: CONTEMPORARY CONTROVERSIES IN EEZ JURISPRUDENCE AND THEIR RELEVANCE TO BANGLADESH

9.1 The South China Sea Arbitration and its Global Significance

The South China Sea Arbitration, conducted under UNCLOS Annex VII and resulting in the Award of 12 July 2016 in the Philippines v. China arbitration (PCA Case No. 2013-19), is the most controversial and most discussed international maritime law decision of the twenty-first century. The Tribunal's conclusions on the nature of the EEZ, the legal status of various maritime features, and the incompatibility of China's "nine-dash line" claim with UNCLOS have had global repercussions for the interpretation and application of the law of the sea.

The Tribunal's analysis of the EEZ is directly relevant to the jurisprudential foundation of Bangladesh's maritime rights. The Tribunal confirmed, consistent with the established jurisprudence, that the EEZ is a distance-based zone measured from the coastal state's baselines, that it is not subject to historic rights claims, and that the rights of the coastal state in the EEZ are those specifically granted by UNCLOS and not broader than UNCLOS provides. This analysis supports Bangladesh's position in relation to any potential future claims by neighbouring states that might invoke historic rights or other bases for jurisdiction in Bangladesh's EEZ.

The Tribunal's analysis of the legal status of maritime features, distinguishing between islands capable of sustaining human habitation or economic life of their own (which generate full EEZ entitlements), rocks that cannot sustain such life (which generate only a 12-nautical-mile territorial sea), and low-tide elevations (which generate no maritime zones themselves), has significant implications for the Bay of Bengal, where several features of uncertain status exist. The treatment of St. Martin's Island in the ITLOS Bangladesh/Myanmar judgment, which awarded it less than full weight but did not address its status as an island versus a rock, is potentially affected by the South China Sea Tribunal's analysis, and the question of whether St. Martin's Island would qualify as a full island under the 2016 analysis is one that Bangladesh's legal community should examine carefully.

9.2 The BBNJ Agreement and the EEZ: Implications for Bangladesh

The BBNJ Agreement, which entered into force on 17 January 2026 following Morocco's ratification as the sixtieth party in September 2025, establishes a new international legal framework for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. While the Agreement's primary focus is on the high seas and the Area, it has significant implications for EEZ governance as well.

The Agreement's provisions on environmental impact assessment (Part IV) establish standards for the assessment of activities in areas beyond national jurisdiction. These standards, while not directly applicable to EEZ activities, provide a benchmark against which EEZ governance frameworks are increasingly measured. The EIA standards of the BBNJ Agreement reflect the state of the art in international environmental assessment practice, including requirements for public participation, notification of potentially affected states, and post-assessment monitoring, and Bangladesh's development of an EEZ EIA framework should be informed by these standards.

The Agreement's provisions on marine genetic resources (Part II) address the access and benefit-sharing framework for marine genetic resources from areas beyond national jurisdiction. This is relevant to Bangladesh because the Bay of Bengal, particularly its deep-water areas, contains

significant marine biodiversity with potential pharmaceutical, biotechnological, and other commercial applications. Bangladesh's ability to benefit from its own marine genetic resources within its EEZ and from research conducted in the high seas adjacent to its EEZ depends on having a legal framework for the regulation of bioprospecting activities, and the BBNJ Agreement provides the framework for the high-seas portion of this governance challenge.

9.3 The Trump Administration's Deep-Sea Mining Executive Order and International Law Tensions

On 24 April 2025, United States President Donald Trump issued Executive Order 14285, entitled "Unleashing America's Offshore Critical Minerals and Resources," which directed US agencies to facilitate the extraction of critical minerals from the deep seabed, including in areas beyond national jurisdiction, under a framework that bypassed the international governance regime established by the International Seabed Authority under UNCLOS. This Executive Order, issued by a state that has not ratified UNCLOS, has created significant tension in the international maritime legal community and has raised questions about the stability of the UNCLOS framework for deep-seabed governance.

The ISA has condemned the US Executive Order as incompatible with the customary international law principle of the common heritage of mankind, which it argues is reflected in UNCLOS Part XI and the 1994 Implementation Agreement and is binding on all states regardless of their UNCLOS status. The Council and Assembly of the ISA have called on all states to observe the common heritage principle and to recognise the ISA's exclusive authority over the regulation of deep-seabed mineral exploitation in the Area.

For Bangladesh, the US Executive Order creates a challenging diplomatic and legal environment. Bangladesh has ratified UNCLOS and is committed to the common heritage of mankind principle. Any US extraction of deep-seabed minerals without ISA authorisation would set a precedent that could undermine the UNCLOS framework that Bangladesh has invested significant diplomatic and legal resources in building. Bangladesh should actively support the ISA's authority and the UNCLOS framework in international forums, and it should use its membership in the G77 and BIMSTEC to build coalitions of states that affirm the common heritage principle and the ISA's regulatory role.

At the same time, the deep-sea mineral question is indirectly relevant to Bangladesh's own outer continental shelf interests. The mineral resources of the deep seabed adjacent to Bangladesh's outer continental shelf, in the Area, are governed by the ISA framework rather than by Bangladesh's sovereign rights, and Bangladesh's participation in the ISA and in the development of the ISA's mining code is important for ensuring that the governance of these resources reflects the interests of developing coastal states like Bangladesh.

9.4 The Dispute over Military Activities in the EEZ: A Simmering Controversy

The question of whether states may conduct military activities, including intelligence gathering, hydrographic surveys, and naval exercises, in the EEZ of another state without that state's consent has become increasingly acute with the expansion of naval competition in the Indo-

Pacific, including in the Bay of Bengal. India has consistently maintained that foreign naval vessels require permission to conduct research and survey activities in India's EEZ, a position shared by several other coastal states. The United States and other major maritime powers maintain that freedom of navigation encompasses military activities and that no consent is required.

The Bay of Bengal is increasingly a theatre for Great Power naval competition, with the United States, China, India, and other powers conducting naval exercises and surveillance operations in the region. Bangladesh's EEZ may be involved in some of these activities, and the question of Bangladesh's rights and obligations in relation to military activities in its EEZ is therefore not merely academic.

Bangladesh has not taken a clear public position on the military activities question. Given its geographic position and its strategic interest in maintaining good relations with multiple Great Powers, Bangladesh may prefer to avoid taking a definitive legal position on an issue that could create friction with any of them. However, the absence of a clear legal position creates governance uncertainty and could lead to incidents that Bangladesh is poorly positioned to manage legally. Bangladesh's maritime law reform should address the military activities question in a way that reflects Bangladesh's strategic interests and is consistent with its interpretation of UNCLOS.

CHAPTER 10: THE EEZ AND BANGLADESH'S POLITICAL ECONOMY: GOVERNANCE, CORRUPTION, AND REFORM

10.1 The Political Economy of Maritime Resource Governance

The governance of natural resources, including maritime resources, is deeply shaped by political economy factors, including the distribution of political power, the structure of economic interests, the presence or absence of transparency and accountability institutions, and the historical patterns of resource allocation and rent-seeking. Bangladesh's political economy, which has been characterised by significant elite capture of natural resource revenues, by high levels of corruption in regulatory agencies, and by the relative exclusion of poor and marginalised communities from the benefits of development, poses a serious challenge to the equitable and sustainable governance of the EEZ.

The rent-seeking potential of maritime resource governance is substantial. Fishing licences, hydrocarbon exploration permits, port concessions, and other maritime authorisations have significant economic value and can generate substantial revenues for both the state and, through corruption, for individual officials and political patrons. The absence of transparent, rule-based systems for the allocation of these authorisations creates opportunities for corruption and political capture that are difficult to address without fundamental institutional reform.

The interim government of Bangladesh, which came to power following the resignation of Prime Minister Sheikh Hasina in August 2024 amid mass protests, has articulated a commitment to

institutional reform and anti-corruption governance. However, the specific implications of this commitment for maritime resource governance have not yet been elaborated in any detail, and the deep structural features of Bangladesh's political economy, including the concentration of economic and political power in a small elite, will not be transformed merely by a change of government.

A comprehensive reform of Bangladesh's maritime legal framework must address the political economy constraints on effective governance as well as the doctrinal and technical dimensions of the law. This requires transparency provisions requiring public disclosure of all maritime resource licences and authorisations, competitive and rule-based procedures for the allocation of maritime resource rights, independent oversight of maritime governance agencies, and effective anti-corruption mechanisms with genuine enforcement powers. Without these governance infrastructure improvements, even a perfectly drafted legal framework will be captured and distorted by the same political economy dynamics that have hampered Bangladesh's resource governance in other sectors.

10.2 The Blue Economy Cell and Institutional Fragmentation

The Blue Economy Cell, established within the Prime Minister's Office to coordinate the government's blue economy strategy, is the primary institutional expression of Bangladesh's commitment to EEZ resource development. However, as noted by multiple academic commentators, the Cell lacks the formal legal authority, the technical expertise, and the budgetary resources to serve as an effective coordinating institution for the many agencies and ministries with maritime jurisdiction.

The 2025 academic analysis by Islam and colleagues, published in the BIISS Journal, identifies the institutional fragmentation of Bangladesh's blue economy governance as one of the primary obstacles to effective EEZ resource management. Multiple ministries, including the Ministry of Fisheries and Livestock, the Ministry of Energy, Mines and Mineral Resources, the Ministry of Shipping, the Ministry of Environment, Forest and Climate Change, and the Ministry of Land, all have significant maritime interests and functions that need to be coordinated. The Blue Economy Cell's coordinating role is undermined by the absence of a clear legal mandate and by the political dynamics of inter-ministerial competition in Bangladesh's governance system.

The 2025 academic work of Islam and colleagues in the GSC Advanced Research and Reviews also notes that the development of the blue economy in Bangladesh requires addressing the challenges of sustainable maritime growth, including the need for improved governance, technology, and regional cooperation. These findings reinforce the case for a comprehensive institutional reform that creates a well-resourced, legally empowered, technically capable blue economy governance authority.

10.3 The Role of the Judiciary in EEZ Governance: Maritime Courts and Environmental Litigation

Bangladesh's judiciary has played an important role in the governance of environmental matters through public interest litigation, most notably in cases concerning the preservation of the

Sundarbans, the regulation of industrial pollution in coastal areas, and the protection of coastal ecosystems. The Bangladesh courts have demonstrated a willingness to issue injunctions against development activities found to be harmful to the environment, to order government agencies to comply with environmental legislation, and to engage with international environmental law principles in the interpretation of domestic law.

The establishment of a specialised maritime court, with jurisdiction over maritime crime, piracy, fisheries offences, marine pollution, and shipping disputes, has been proposed by several Bangladeshi legal scholars and would be an important institutional complement to the legislative reform of maritime law. Such a court would develop a specialised expertise in maritime law, provide a consistent and predictable forum for the resolution of maritime disputes, and serve as a vehicle for the progressive development of Bangladesh's maritime jurisprudence. The experience of other jurisdictions that have established specialised maritime courts, including India's National Green Tribunal with environmental jurisdiction over marine matters, provides useful models for Bangladesh.

CHAPTER 11: COMPARATIVE ANALYSIS OF EEZ GOVERNANCE - LESSONS FROM INDIA, INDONESIA, AND THE PACIFIC

11.1 India's EEZ Governance: An Evolving Model

India's governance of its extensive EEZ, which covers approximately 2.02 million square kilometres, provides the most directly relevant comparative model for Bangladesh, given the geographical proximity, the shared legal heritage, and the bilateral relationship between the two states. India's Maritime Zones Act of 1976, substantially amended since its enactment, provides the legislative framework for EEZ governance, and it has been supplemented by extensive sector-specific legislation covering fisheries, offshore energy, maritime security, and environmental protection.

India's fisheries governance framework, which includes the Marine Products Export Development Authority (MPEDA) for export regulation, the Central Marine Fisheries Research Institute (CMFRI) for stock assessment and research, the National Fisheries Development Board (NFDB) for development programmes, and state-level fisheries departments for coastal regulation, provides a model of institutional complexity that Bangladesh can learn from, both in terms of its strengths and its limitations. India's fisheries governance has been more systematic and science-based than Bangladesh's, with CMFRI conducting regular stock assessments of major marine species, but it has also been characterised by serious failures of conservation, overexploitation of key stocks, and inadequate protection of artisanal fishers' rights.

India's recent marine spatial planning initiative, launched in 2022 under the Department of Ocean Development and the National Institute of Ocean Technology, provides a model for Bangladesh's own MSP development. India's MSP is being developed through a participatory process involving multiple stakeholders, including fishing communities, port authorities, offshore energy

operators, and environmental organisations, and it will provide the spatial framework for the integrated governance of India's EEZ.

11.2 Indonesia's Archipelagic EEZ Governance: Complexity as a Teacher

Indonesia's governance of its vast archipelagic EEZ, the second largest in the world after the United States, provides lessons in the governance of maritime resources across a complex, multi-island geography with diverse ethnic, cultural, and legal traditions. Indonesia's National Sea Policy, adopted in 2017, and its integrated maritime law framework, drawing together the sea domain into a coherent governance structure, provide a model for ambitious maritime governance in a developing country context.

Indonesia's success in significantly reducing IUU fishing in its EEZ through a combination of strict enforcement, vessel monitoring systems, and the use of satellite technology provides a specific operational model for Bangladesh's IUU fishing control strategy. Former Indonesian Maritime Affairs and Fisheries Minister Susi Pudjiastuti's aggressive enforcement campaign, which included the sinking of hundreds of foreign IUU fishing vessels, demonstrated that determined political will combined with effective operational capacity can substantially reduce IUU fishing even in a very large and complex EEZ. Bangladesh's approach need not and should not replicate the vessel sinking policy, which has attracted criticism on legal and environmental grounds, but the broader commitment to enforcement and the operational investment in surveillance and monitoring capacity are instructive.

11.3 The Pacific Island EEZ Governance Model: Collective Strength Through Regional Cooperation

The Pacific Island states, collectively managing some of the world's largest EEZs relative to their land areas, have developed innovative governance models through regional cooperation that provide important lessons for Bangladesh and other developing coastal states. The Parties to the Nauru Agreement (PNA), a coalition of eight Pacific island states, have collectively managed the access of purse seine vessels to their combined EEZs through a vessel day scheme that has generated several hundred million dollars annually in fishing access fees, transforming the EEZs from sources of nominal legal rights into sources of substantial revenue.

The PNA model demonstrates that small and developing coastal states, individually unable to negotiate effectively with powerful distant-water fishing states, can achieve much better outcomes through collective bargaining and collective governance. The Pacific Islands Forum Fisheries Agency (FFA), which provides technical and legal support to Pacific island states in their fisheries governance and negotiations, has been an essential institutional infrastructure for this collective approach.

The BIMSTEC framework offers potential for a similar collective approach to EEZ fisheries governance in the Bay of Bengal. The development of a BIMSTEC fisheries agreement that coordinates the management of shared stocks, establishes compatible conservation measures, and provides for collective negotiation with distant-water fishing states would strengthen all Bay of Bengal coastal states' positions relative to the powerful fleets that seek access to the bay's

fisheries. Bangladesh, as the BIMSTEC secretariat host and as the Bay of Bengal state with the most to gain from improved fisheries governance, should champion this initiative.

CHAPTER 12: THE EEZ IN THE AGE OF DIGITISATION, ARTIFICIAL INTELLIGENCE, AND MARITIME AUTONOMOUS SYSTEMS

12.1 Digital Technology and EEZ Governance: Satellite Monitoring, AIS, and Maritime Domain Awareness

The digital transformation of maritime governance is one of the most significant developments in international maritime law and practice in the twenty-first century, and it has profound implications for Bangladesh's governance of its EEZ. The satellite-based Automatic Identification System (AIS), which transmits the position, identity, speed, and course of vessels, has transformed maritime domain awareness from an aspiration to a practical reality for most of the world's EEZs. Global AIS networks, including systems operated by commercial providers such as Spire Global and exactEarth, now provide near-real-time tracking of virtually all large vessels in the world's oceans, making the concealment of vessel movements significantly more difficult.

For Bangladesh's fisheries enforcement, satellite AIS monitoring provides an important tool for the detection and tracking of potentially IUU fishing vessels in the EEZ. Vessels that switch off their AIS transponders, a common IUU fishing tactic, can be detected by the anomaly their absence creates in the AIS data, and their last known position and trajectory can guide enforcement vessel patrols. Satellite Synthetic Aperture Radar (SAR) imagery provides an additional layer of surveillance, capable of detecting vessels regardless of whether they are transmitting AIS, and the combination of AIS, SAR, and other remote sensing technologies provides a comprehensive maritime domain awareness picture that was unimaginable twenty years ago.

The legal framework for maritime surveillance technology in Bangladesh's EEZ needs to address several questions that are not currently addressed in the domestic legislation. These include the authority to collect and retain vessel tracking data, the privacy implications of vessel surveillance (limited in the fishing vessel context by the lack of individual privacy rights in commercial maritime activities), the evidential status of satellite surveillance data in enforcement proceedings, and the authority to share surveillance data with neighbouring states and international organisations for cooperative enforcement purposes.

12.2 Vessel Monitoring Systems: Legal Requirements and Bangladesh's Framework

Vessel Monitoring Systems (VMS), which require fishing vessels to carry satellite transponders that report their position and other data to a coastal state fisheries monitoring centre at regular intervals, are the standard technology for monitoring fishing vessel movements within the EEZ. Unlike AIS, which is a maritime safety system that broadcasts to all receivers, VMS is a fisheries compliance system that transmits position data directly to the regulatory authority. VMS is

required by multiple international fisheries instruments, including the UN Fish Stocks Agreement and the IOTC conservation and management measures, and it is increasingly considered an essential component of any credible fisheries management system.

Bangladesh's Marine Fisheries Ordinance does not currently require fishing vessels to carry VMS transponders, and Bangladesh does not have a functioning national fisheries monitoring centre for tracking vessel positions. This is a fundamental gap in Bangladesh's fisheries surveillance capacity that must be addressed urgently. The installation of VMS on all licensed fishing vessels operating in Bangladesh's EEZ would dramatically improve Bangladesh's ability to detect and respond to violations of its fisheries regulations, and it would provide the data foundation for effective fisheries management including the collection of catch and effort data.

The cost of VMS implementation is not negligible, but it is modest relative to the value of the fisheries resources that the system protects. The development finance institutions, including the World Bank and the Asian Development Bank, have funded VMS implementation programmes in multiple developing countries, and Bangladesh should seek similar support. The BIMSTEC framework could also provide a vehicle for a regional VMS programme that achieves economies of scale and facilitates data sharing among Bay of Bengal coastal states.

12.3 Artificial Intelligence and Machine Learning in Fisheries Enforcement

The application of artificial intelligence and machine learning to maritime surveillance data, including AIS, VMS, and satellite imagery, is an emerging area of enormous practical significance for fisheries enforcement. AI systems can analyse vast quantities of vessel tracking data to identify behavioural anomalies associated with fishing activity, including the distinctive patterns of vessel movement during net setting, hauling, and gear deployment. These systems can also integrate multiple data streams, including weather data, oceanographic data, and historical fishing patterns, to predict where fishing activity is likely to occur and to optimise the deployment of limited enforcement resources.

Commercial AI-based fisheries monitoring systems, such as those developed by SkyTruth, Global Fishing Watch, and Windward, are now being used by a number of coastal states and international organisations to monitor fishing activity in their EEZs and on the high seas. Global Fishing Watch, a non-profit initiative supported by Google, Oceana, and SkyTruth, publishes global fishing activity data based on AIS analysis and makes it freely available, providing developing countries with access to sophisticated monitoring capabilities without the need for substantial domestic technical investment.

Bangladesh should explore partnerships with Global Fishing Watch and similar initiatives to access maritime domain awareness capabilities beyond what its domestic resources can support. The integration of AI-generated fishing activity data into Bangladesh's enforcement decision-making process, within a legal framework that establishes the evidential standards and procedural requirements for AI-generated evidence in enforcement proceedings, would significantly enhance Bangladesh's fisheries governance capacity.

12.4 Maritime Autonomous Systems: The Legal Status of Unmanned Vessels in the EEZ

The development of Maritime Autonomous Surface Ships (MASS) and autonomous underwater vehicles (AUVs) poses novel legal questions for the governance of the EEZ that UNCLOS was not designed to address. As these technologies mature and are deployed commercially and for governmental purposes, questions arise about their legal status: are they "ships" within the meaning of UNCLOS, do they have a "nationality" in the sense of a flag state, do they have a right of innocent passage in the territorial sea, and do they fall within the navigational freedoms of the EEZ?

The IMO has been working on the regulatory framework for MASS through an intersessional working group that has been active since 2017, and it has published a preliminary scoping exercise that identifies the UNCLOS and IMO convention provisions that may need to be adapted to accommodate MASS. However, consensus on the appropriate regulatory framework has been slow to emerge, and the current legal situation is one of significant uncertainty.

For Bangladesh's EEZ governance, the MASS question is relevant in two contexts. First, as a coastal state, Bangladesh needs to understand its rights and obligations with respect to autonomous vessels that may be operating in its EEZ, whether for commercial, scientific, or military purposes. Second, as a state with developing maritime enforcement capacity, Bangladesh may in the future wish to deploy autonomous surveillance vessels in its EEZ to supplement its manned Coast Guard fleet, and the legal framework for such deployment needs to be established.

CHAPTER 13: JURISPRUDENTIAL REFLECTIONS ON THE EEZ - LAW, EQUITY, AND THE FUTURE OF OCEAN GOVERNANCE

13.1 The EEZ and the Tension Between Sovereignty and Global Commons Governance

The EEZ regime represents a particular resolution of the fundamental tension in the law of the sea between national sovereignty and the governance of global commons. By giving coastal states exclusive resource rights over a large proportion of the ocean, UNCLOS chose a regime of national jurisdiction over a regime of international commons governance for the most commercially significant areas of the sea. This choice was made for practical and political reasons: the EEZ regime had the support of most coastal states, which saw exclusive national jurisdiction as the most effective mechanism for resource conservation and development, and it was necessary to secure the broader package deal of UNCLOS.

But the EEZ choice comes at a cost. National jurisdiction, while potentially effective for conservation and management when the coastal state has the institutional capacity and the political will to exercise it responsibly, can also be a vehicle for overexploitation when the coastal state is more interested in short-term revenue than in long-term sustainability. The empirical record of EEZ fisheries governance globally is mixed at best: many coastal states have failed to prevent overexploitation of fish stocks in their EEZs, and the shift from open-access to national jurisdiction has not universally improved the conservation outcomes that motivated the EEZ concept.

The tension between national sovereignty and global commons governance in the EEZ is becoming more acute as the global ocean faces unprecedented ecological pressure from climate change, pollution, and overexploitation. The emerging discourse on ocean rights, drawing on the Rights of Nature movement and arguing that the ocean itself has legal rights that constrain the actions of both coastal states and other actors, represents a philosophical challenge to the anthropocentric framework of UNCLOS. While these ideas have not yet been incorporated into binding international law, they reflect a growing awareness that the current framework of national sovereignty combined with international freedom may be inadequate to protect the ocean as a global life-support system.

13.2 Ronald Dworkin's Rights Thesis and the EEZ: Does the Ocean Have Rights?

Ronald Dworkin's rights thesis, developed in Taking Rights Seriously (1977), argues that legal rights are not simply rules to be balanced against other considerations but are "trumps" that override policy arguments and social utility calculations. Applied to the EEZ, the rights thesis raises the question of whether the right of the coastal state to exploit EEZ resources is a right in the Dworkinian sense, immune from overriding by policy arguments about global ecological benefit, or whether it is a form of policy entitlement that must be balanced against other considerations.

A strict Dworkinian analysis would suggest that the coastal state's UNCLOS-based EEZ rights are legal rights that cannot be overridden by competing ecological or distributional claims, since rights in Dworkin's sense are not subject to utilitarian aggregation. But this strict reading creates a legal framework that is inadequate to address the global ecological crisis, and it sits uneasily with the UNCLOS framework itself, which imposes significant environmental obligations on the coastal state that qualify its resource rights.

A more nuanced reading of Dworkin in the ocean context would recognise that the environmental protection obligations of UNCLOS Part XII, as elaborated by the 2024 ITLOS Advisory Opinion, constitute a dimension of the coastal state's legal duties that is integral to the legal regime rather than a limitation externally imposed on it. On this reading, the coastal state's right to exploit EEZ resources exists within a framework of environmental obligation that is not merely a balancing factor but a constitutive element of the right itself. The right to exploit, on this interpretation, is the right to exploit sustainably, and a coastal state that fails to meet its environmental obligations is not merely violating a separate legal duty but failing to exercise its resource right in a legally valid way.

13.3 Feminist Jurisprudence and the EEZ: Reconceptualising Ocean Governance

Feminist jurisprudence, as developed by Catharine MacKinnon, Martha Fineman, and other scholars, challenges the ostensibly neutral and objective character of legal categories and reveals the ways in which those categories are shaped by and serve the interests of the male-dominated social and political order. Applied to the EEZ, feminist jurisprudence raises several important questions about whose interests the EEZ regime serves and whose interests are rendered invisible or subordinated by the formal legal framework.

The EEZ regime, as it is operationalised in most coastal states including Bangladesh, is constructed around categories of economic exploitation and sovereign control that reflect and reinforce a masculine conception of the relationship between the state and the ocean. The EEZ is a space of resource extraction, of sovereign assertion, and of economic calculation: it is measured, mapped, administered, and exploited through predominantly male-dominated institutional structures, through technical languages of hydrography and petroleum engineering that exclude most of the population, and through market mechanisms that privilege capital-intensive forms of resource exploitation over the subsistence and artisanal activities that are more characteristic of women's maritime livelihoods.

The feminist critique points to the need to reconceptualise the EEZ not merely as a space of resource exploitation but as a space of social life, of cultural practice, and of ecological relationship. This reconceptualisation would shift attention from the abstract sovereign rights of the state to the concrete livelihoods, rights, and interests of the people, especially women, who live in and depend upon the maritime space and its resources. It would require governance institutions that are genuinely participatory and inclusive, that take seriously the knowledge and practices of fishing communities including women, and that distribute the benefits of EEZ resource development in ways that address gender inequality rather than perpetuating it.

13.4 The EEZ in Light of Ocean Governance Theory: Moving Beyond UNCLOS

The academic literature on ocean governance theory has increasingly recognised that UNCLOS, while a landmark achievement, is an insufficient framework for the governance of the twenty-first-century ocean. The UNCLOS framework was designed for a world of separate, national, and sectoral governance: it allocated rights among states, established specific rules for specific activities, and created dispute settlement mechanisms for resolving conflicts. But the challenges of the twenty-first century, including climate change, biodiversity loss, plastic pollution, and the increasing intensity of ocean use across multiple sectors, require a more integrated, adaptive, and ecologically grounded approach to ocean governance that the UNCLOS framework does not provide.

The concept of Integrated Ocean Governance (IOG), developed by scholars including David Vidas, Peter Johan Schei, and James Harrison, argues for a comprehensive approach to ocean governance that recognises the interdependence of different uses and sectors, that incorporates scientific knowledge of ecosystem dynamics into governance frameworks, that provides for adaptive management in response to changing conditions, and that addresses the distributional dimensions of ocean use in a globally equitable way. IOG is not merely an academic concept; it is increasingly reflected in the practice of states and international organisations, including the development of marine spatial planning, the ecosystem approach to fisheries management, and the integration of climate change adaptation into maritime governance.

For Bangladesh, the IOG perspective reinforces the case for the integrated maritime governance framework proposed in this commentary, combining the Blue Economy Authority, the Marine Environmental Protection Act, the Coastal Zone Management Act, and the Marine Spatial Planning framework into a coherent institutional and legal architecture for the governance of Bangladesh's entire maritime domain.

CHAPTER 14: REFORM RECOMMENDATIONS FOR EEZ GOVERNANCE - A COMPREHENSIVE LEGISLATIVE AND INSTITUTIONAL AGENDA

14.1 The Case for a New Marine Fisheries Act

The case for replacing the 1983 Marine Fisheries Ordinance with a new, comprehensive Marine Fisheries Act is, based on the analysis in the preceding chapters, overwhelming. The Ordinance is not merely out of date; it lacks the foundational elements of a modern fisheries governance system. A new Marine Fisheries Act should incorporate the following key elements, drawn from the best practice of advanced fisheries governance jurisdictions and the requirements of UNCLOS, the UNFSA, the IOTC measures, and the 2015 ITLOS Advisory Opinion.

The Act should establish a framework for stock assessment, requiring the Bangladesh government to commission regular scientific surveys of all commercially important marine species and to publish the results of those surveys. These surveys should be conducted by a designated scientific body, whether an enhanced and properly resourced version of the existing Bangladesh Fisheries Research Institute or a new institution, with the technical expertise, vessels, and equipment required for systematic stock assessment science.

The Act should establish a system of allowable catch determination, under which the annual harvest level for each assessed stock is determined on the basis of the best available scientific evidence, in accordance with the maximum sustainable yield standard of UNCLOS Article 61(3), adjusted where necessary to reflect ecosystem, economic, and social considerations. The allowable catch determination should be made through a transparent, participatory process involving scientific advisers, industry representatives, fishing community representatives, and environmental organisations.

The Act should establish a comprehensive licensing and permit system, under which all fishing vessels operating in Bangladesh's EEZ must hold valid licences issued in accordance with the Act. Licence conditions should include requirements for VMS installation and operation, catch reporting, bycatch mitigation, gear restrictions, and compliance with closed areas and seasonal restrictions. Licences should be issued for fixed periods, with renewal subject to compliance with conditions, and should be revocable in the event of serious violations.

The Act should establish a monitoring, control, and surveillance system, including a national fisheries monitoring centre with the technology and personnel to track all licensed vessels in real time, to receive and process catch and effort reports, to respond to enforcement alerts, and to cooperate with neighbouring states' fisheries monitoring systems. The MCS system should be adequately funded and staffed, with a dedicated budget line separate from the general fisheries administration budget.

The Act should establish substantially enhanced penalties for violations, including significant fines calibrated to the economic value of the catch involved and to the profitability of fishing operations, supplemented by vessel confiscation, licence revocation, and in serious cases,

imprisonment. For foreign vessels conducting IUU fishing, the penalty regime should be at least as stringent as that for domestic vessels, and Bangladesh should assert its right to seek flag state liability for vessels that persistently violate its EEZ fisheries laws.

The Act should establish a system of co-management, under which fishing communities have a formal role in fisheries governance decisions through designated representatives in advisory bodies, through participatory processes for the development of management plans and regulations, and through the assignment of community-based management rights in defined coastal areas. The co-management system should be designed to give fishing communities genuine decision-making authority, not merely a consultative role, in matters that directly affect their livelihoods.

The Act should contain specific provisions for small-scale fisheries, including exclusive or preferential access rights in defined inshore areas, prohibition of trawling within specified distances from the coast, and the provision of social protection, insurance, and development programmes specifically for small-scale fishing households. The inshore reservation should be large enough to provide genuine protection for artisanal fishing communities and should be enforced with the same rigour as other fisheries regulations.

The Act should mainstream gender equality through specific provisions requiring the inclusion of women in co-management bodies, the extension of registration and licensing benefits to women fisheries workers, the design of development programmes that specifically address women's needs and rights, and the collection of gender-disaggregated fisheries data.

14.2 The EEZ Components of a New Comprehensive Maritime Zones and Governance Act

The 2021 Amendment Act should be replaced, over time, by a comprehensive Maritime Zones and Governance Act that addresses all aspects of Bangladesh's maritime jurisdiction in a coherent, integrated legislative instrument. The EEZ components of this Act should:

Provide a comprehensive and technically accurate definition of Bangladesh's EEZ, its extent, its measurement from the baseline, and the outer limits as determined by the ITLOS judgment and the PCA award.

Specifically address the grey area problem, establishing Bangladesh's interpretation of the applicable legal regime and providing a legal basis for bilateral negotiation with India on the governance of the grey area.

Establish the legal framework for marine spatial planning, providing the institutional basis, the procedural requirements, and the legal effects of MSP plans.

Establish the legal framework for offshore renewable energy, specifying the licensing, environmental assessment, safety, and decommissioning requirements for offshore energy installations.

Establish a comprehensive framework for marine scientific research in the EEZ, implementing UNCLOS Part XIII in domestic law and providing transparent and rule-based procedures for the consent and monitoring of research by foreign states and international organisations.

Address the MASS and autonomous systems question, establishing Bangladesh's regulatory framework for autonomous maritime vehicles in its EEZ in a way that complies with applicable international law and protects Bangladesh's sovereign rights.

Establish the legal framework for the outer continental shelf, implementing UNCLOS Article 82's payment obligations and providing the basis for governance of outer shelf resource exploitation.

14.3 An Offshore Energy and Mineral Resources Act

A new Offshore Energy and Mineral Resources Act should establish a comprehensive legal framework for the exploration and exploitation of all non-living resources in Bangladesh's EEZ and continental shelf. Key provisions should include:

A modern, internationally competitive PSC framework for offshore hydrocarbon development, with fiscal terms, environmental standards, local content requirements, and decommissioning obligations that reflect current international best practice.

A specific legal framework for offshore renewable energy, including an auction or licensing process for offshore wind and wave energy development, requirements for environmental impact assessment, grid connection terms, and revenue arrangements that provide benefits to coastal communities.

An environmental protection framework specifically applicable to offshore energy operations, including emission standards, spill prevention and response requirements, and waste management requirements that reflect the best available technology standard.

A decommissioning framework that ensures adequate financial provisioning for the eventual removal and remediation of offshore energy infrastructure at the end of its operational life.

14.4 The Institutional Reform: Towards a Bangladesh Maritime Governance Authority

The institutional reform required to give effect to the legislative reform agenda described above is as important as the legislation itself. The fundamental institutional challenge is to create a single coordinating authority for Bangladesh's maritime governance that brings together the currently fragmented functions of multiple ministries and agencies, provides the technical expertise, the financial resources, and the political authority needed to implement comprehensive maritime governance, and is accountable to parliament and to the public.

The proposed Bangladesh Maritime Governance Authority (BMGA), for which this commentary uses the working title of the Blue Economy Authority that has been proposed in the academic literature, should have the following key characteristics.

It should have a clear statutory mandate, established by the new comprehensive Maritime Zones and Governance Act, covering the full range of EEZ governance functions including fisheries, offshore energy, marine spatial planning, environmental protection, and maritime security coordination.

It should have adequate financial resources, funded through a combination of general taxation and resource revenue from maritime licences, permit fees, and royalties, with a transparent budgeting process and audited accounts.

It should have technical expertise in marine science, fisheries management, environmental law, energy regulation, and maritime security, either by employing suitably qualified staff directly or through formal partnerships with research institutions and universities.

It should have genuine regulatory authority, including the power to issue licences and permits, to impose conditions, to monitor compliance, to take enforcement action against violations, and to impose administrative sanctions. This regulatory authority should be exercised through transparent, rule-based processes with procedural safeguards against administrative arbitrariness.

It should have a governance structure that includes an independent board with members representing civil society, fishing communities, the scientific community, and the private sector, in addition to government representatives, to provide accountability and public legitimacy.

It should have formal coordination mechanisms with the Bangladesh Navy and Coast Guard for maritime law enforcement, with the Bangladesh Meteorological Department and the Bangladesh Oceanographic Research Institute for scientific information, and with the relevant ministries for policy alignment.

CHAPTER 15: THE EEZ IN THE CONTEXT OF BANGLADESH'S VISION 2041 AND SUSTAINABLE DEVELOPMENT GOALS

15.1 Vision 2041 and the Blue Economy

Bangladesh's Vision 2041 development strategy, articulating the goal of becoming a developed country by 2041 with a per capita income exceeding 12,500 US dollars, assigns a significant role to the blue economy in achieving this ambition. The vision document identifies the maritime sector as a major potential source of economic growth, including offshore energy, marine fisheries, maritime transport, and coastal tourism, and it calls for the development of the institutional and legal frameworks necessary to realise this potential.

The blue economy target in Vision 2041 is ambitious: the government has estimated that the maritime sector could contribute up to 3-4 per cent of GDP annually if properly developed, compared to the current contribution of approximately 1 per cent. Achieving this target requires not only the legal and institutional reforms described in this commentary but also significant investments in maritime infrastructure, in human capital development for the maritime sector,

and in international partnerships that provide access to the technology and capital needed for offshore energy and deep-sea resource development.

The political economy context for achieving Vision 2041's maritime ambitions has been complicated by the political transition of August 2024, which has created uncertainty about the continuity of the blue economy strategy and the pace of institutional reform. The interim government of Dr Muhammad Yunus has articulated a commitment to structural reform and to the principles of transparency and accountability, which are essential to the realisation of equitable and sustainable maritime development. But the specific maritime governance priorities of the interim government have not yet been clearly articulated, and the legislative reform agenda recommended in this commentary awaits a clear political mandate.

15.2 The SDGs and Maritime Governance

The United Nations Sustainable Development Goals (SDGs), adopted in 2015 as the global framework for sustainable development to 2030, include SDG 14, which is specifically focused on "Life Below Water" and calls for the conservation and sustainable use of the oceans, seas, and marine resources for sustainable development. The targets of SDG 14 include reducing marine pollution, ending overfishing, conserving coastal and marine areas, and increasing the economic benefits to small island developing states and least developed countries from the sustainable use of marine resources.

Bangladesh, as a Least Developed Country that has recently graduated from the LDC category and as a country heavily dependent on marine resources for its food security, economic development, and climate resilience, has a strong stake in the achievement of SDG 14. Several of SDG 14's specific targets are directly relevant to the legal reform agenda proposed in this commentary. SDG 14.4 calls for the effective regulation of harvesting, ending overfishing, and restoring fish stocks to sustainable levels by 2020, a target that Bangladesh has clearly not met and that will require significant legislative and institutional reform to approach even by the extended 2030 deadline. SDG 14.b calls for providing access to marine resources and markets for small-scale artisanal fishers, which requires the specific legal provisions for small-scale fisheries described above.

The implementation of the SDGs in Bangladesh's maritime sector should be monitored through a comprehensive set of maritime governance indicators, covering stock status, IUU fishing levels, marine protected area coverage, pollution levels, and the distribution of marine resource benefits to different social groups. These indicators should be publicly reported on a regular basis, linked to the institutional performance requirements of the proposed Bangladesh Maritime Governance Authority, and used as benchmarks for the adaptive management of Bangladesh's maritime governance framework.

15.3 Climate Finance and the EEZ: Linking Maritime Governance to International Climate Obligations

Bangladesh's status as one of the world's most climate-vulnerable countries, and as a country that has been at the forefront of international advocacy for stronger climate action and for climate

finance for developing countries, creates opportunities to link the reform of its maritime governance framework to international climate finance mechanisms.

The Green Climate Fund (GCF), the Global Environment Facility (GEF), and the Loss and Damage Fund established at COP27 and elaborated at subsequent climate negotiations, all provide potential funding streams for maritime governance initiatives in Bangladesh that have a clear connection to climate change adaptation and mitigation. The development of a comprehensive Marine Environmental Protection Act, the implementation of ecosystem-based fisheries management as a climate adaptation measure, the designation of marine protected areas as blue carbon sinks, and the development of coastal zone management plans that address sea-level rise and storm surge are all activities that could attract international climate finance.

The 2024 ITLOS Advisory Opinion on climate change obligations strengthens Bangladesh's position in international climate negotiations by confirming that the damages Bangladesh suffers from marine pollution caused by greenhouse gas emissions constitute violations of international law for which emitting states bear responsibility. This confirmation provides a legal basis for Bangladesh's demands for loss and damage compensation through the climate finance architecture, supplementing the policy arguments that Bangladesh has long been making in climate negotiations.

CONCLUSION TO PART TWO

Part Two of this textbook has undertaken a comprehensive analysis of the Exclusive Economic Zone as a legal institution, with constant and specific reference to Bangladesh's situation, obligations, opportunities, and challenges. The analysis has ranged across the philosophical and historical foundations of the EEZ concept, the detailed doctrinal content of the coastal state's rights and obligations under UNCLOS, the complex regime of concurrent entitlements that characterises the zone, the critical governance challenges of fisheries management, offshore resource exploitation, and environmental protection, and the theoretical and political economy dimensions of EEZ governance in Bangladesh.

Several overarching conclusions emerge from this analysis. First, the EEZ is Bangladesh's most important maritime zone, containing the overwhelming majority of the country's marine resources and presenting the most significant opportunities for the development of the blue economy. But the full realisation of those opportunities requires a governance framework that is dramatically more comprehensive, scientifically grounded, and institutionally capable than the current framework provides.

Second, Bangladesh's current domestic legal framework for EEZ governance is inadequate in multiple critical respects. The Marine Fisheries Ordinance of 1983 lacks the foundational elements of modern fisheries governance. The 2021 Amendment Act addresses EEZ jurisdiction in general terms but does not establish the specific regulatory frameworks for fisheries management, offshore energy, marine spatial planning, marine scientific research, and

environmental protection that effective EEZ governance requires. The institutional framework is fragmented, under-resourced, and inadequately empowered.

Third, the international legal obligations that Bangladesh has assumed through UNCLOS, the UNFSA, IOTC membership, and the emerging climate obligations confirmed by the 2024 ITLOS Advisory Opinion, create a demanding framework of standards against which Bangladesh's domestic governance must be measured. On almost all relevant metrics, Bangladesh falls short of these standards, and the gap between international obligation and domestic implementation is growing as the international framework evolves.

Fourth, the reform of Bangladesh's EEZ governance framework is not merely a technical legal exercise; it is a political, economic, and social project of the first importance. The stakes are enormous: the conservation or destruction of Bangladesh's marine fisheries, the responsible or reckless exploitation of offshore hydrocarbons, the equitable or inequitable distribution of maritime resource benefits, and the adequate or inadequate governance of Bangladesh's coastal communities' relationship with the sea are all determined by the governance framework established by law and supported by institutions. Getting this framework right is an obligation of governance that the Bangladeshi state owes to its people, including those most vulnerable to the consequences of maritime resource mismanagement.

Fifth, the reform must be comprehensive, addressing the legal, institutional, scientific, and financial dimensions of EEZ governance in an integrated way. Piecemeal amendments to individual legislation will not be adequate to the task. What is required is a coherent programme of legal and institutional reform, grounded in the principles and guided by the priorities articulated in this Part, that transforms Bangladesh's maritime governance from its current inadequate state to a framework adequate to the demands of the twenty-first century and consistent with Bangladesh's international obligations and its national aspirations.

The subsequent Parts of this textbook will address in detail the specific aspects of Bangladesh's maritime governance framework that have been identified as requiring reform in this Part, including the fisheries governance framework in Part Three, the offshore energy and mineral resources framework in Part Four, the marine environmental governance framework in Part Five, and the institutional governance architecture in Part Six. Together, these Parts will provide the comprehensive commentary and reform agenda that Bangladesh's maritime governance needs and that its people deserve.

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End of Part Two

Part Three: The Legal Governance of Marine Fisheries in Bangladesh - From the Marine Fisheries Ordinance to a Modern Resource Management Framework will follow as the next volume in this series.

PART THREE

THE LEGAL GOVERNANCE OF MARINE FISHERIES IN BANGLADESH: CRITICAL COMMENTARIES ON THE MARINE FISHERIES ACT 2020, THE STRUCTURES OF FISHERIES JURISPRUDENCE, AND THE PATH TO A COMPREHENSIVE SUSTAINABLE RESOURCE MANAGEMENT FRAMEWORK

PREFACE TO PART THREE

The fish does not know it inhabits a legal space. The hilsa that migrates seasonally through the tidal rivers and estuaries of Bangladesh, ascending upstream to spawn and returning to the sea, crosses jurisdictional boundaries drawn by colonial administrators, post-independence lawmakers, and international arbitral tribunals with a biological indifference that the law can never fully match. And yet the law governs everything about that fish's encounter with human society: who may catch it, how many may be caught, when the season opens and when it closes, what vessel may be deployed in its pursuit, what penalty falls upon the fisher who violates the rules, and what obligations the state owes to the fishing communities whose livelihoods depend upon it. The governance of fisheries is, in the deepest sense, the governance of the relationship between human society and the living ocean, and it is one of the most complex, most contested, and most consequential areas of law that any coastal nation must address.

For Bangladesh, a nation whose coastal identity is inseparable from fish, the governance of marine fisheries carries a weight that is simultaneously ecological, economic, cultural, and political. The Bay of Bengal supports fisheries that yield approximately six million tonnes of fish annually, contributing four per cent of the global marine catch and supplying protein to approximately four hundred million people across the littoral states. Bangladesh alone harvests approximately 650,000 to 700,000 tonnes of marine fish annually, and the marine fisheries sector directly employs approximately one and a half million fishers, with millions more engaged in

post-harvest processing, transport, and trade. The sector contributes approximately fifteen per cent of total national fish production and is a major source of foreign exchange earnings through exports of shrimp, hilsa, and other high-value species. The social and cultural dimensions are, if anything, even more profound: fish is the central protein source for a majority of Bangladeshis, the Padma ilish or hilsa is both a national cultural symbol and a UNESCO-recognised intangible cultural heritage, and the identity of coastal communities from Chittagong to the Sundarbans is bound up with the sea and its creatures in ways that no purely economic analysis can capture.

Part Three of this textbook undertakes a comprehensive legal, jurisprudential, and political analysis of Bangladesh's marine fisheries governance framework. It builds upon the foundational analysis of the international law of the sea, Bangladesh's maritime zones, and the blue economy framework established in Parts One and Two, and it focuses in particular on the Marine Fisheries Act of 2020, the primary domestic legislation governing Bangladesh's marine fisheries, which replaced the Marine Fisheries Ordinance of 1983 after nearly four decades. The commentary in this Part examines the 2020 Act in depth, evaluating its conformity with international fisheries law standards, assessing its conceptual architecture and its practical provisions, identifying its significant gaps and deficiencies, and proposing a comprehensive reform agenda grounded in the most recent developments in international fisheries jurisprudence, ecosystem science, and social justice theory.

The analysis proceeds from the recognition that the 2020 Act, while representing a significant improvement over the 1983 Ordinance, does not in its current form provide an adequate legal framework for the sustainable governance of Bangladesh's marine fisheries in the twenty-first century. The Act falls short of the standards established by international fisheries law, particularly the obligations arising from the United Nations Convention on the Law of the Sea, the 1995 UN Fish Stocks Agreement, the 2015 ITLOS Advisory Opinion on flag state responsibility for IUU fishing, the FAO Code of Conduct for Responsible Fisheries, and the emerging framework of climate obligations confirmed by the 2024 ITLOS Advisory Opinion on climate change. It lacks the institutional architecture, the scientific grounding, and the social justice provisions required for fisheries governance that is simultaneously effective, equitable, and ecologically sustainable. And it perpetuates a model of fisheries regulation that is fundamentally reactive and punitive rather than proactive and adaptive.

This Part is structured in fourteen chapters. The first three chapters establish the theoretical, historical, and international legal foundations upon which the subsequent analysis rests. Chapters Four through Nine provide the detailed critical commentary on the 2020 Act and the specific governance challenges it addresses: the legal structure of the Act itself, IUU fishing, hilsa governance, ecosystem-based management, transboundary fisheries, and the rights of small-scale fishing communities. Chapters Ten through Twelve address the intersections between fisheries governance and climate change, gender, and regional cooperation. Chapter Thirteen sets out a comprehensive reform agenda. Chapter Fourteen provides conclusions and recommendations.

CHAPTER 1: PHILOSOPHICAL AND JURISPRUDENTIAL FOUNDATIONS OF FISHERIES LAW - PROPERTY, COMMONS, AND SOVEREIGNTY OVER LIVING RESOURCES

1.1 The Fish as a Legal Object: Property Theory and its Limits

The fish, unlike the oil deposit beneath the seabed or the mineral nodule on the deep ocean floor, is a living creature. It moves. It migrates. It reproduces, grows, ages, and dies according to biological processes that no legal instrument can modify. This biological character of fish as the object of fisheries law creates fundamental difficulties for the application of property theory, which has been the dominant framework for the legal governance of natural resources in the Anglo-American legal tradition.

Property theory, in its classical formulations from Locke through Blackstone to the modern law and economics literature, conceives of property as a bundle of rights over a defined object held by an identified owner. The property right is defined by the exclusion of others from the use of the object, and it is grounded in either natural law (Locke's labour theory, under which one acquires a property right in a natural resource by mixing one's labour with it) or legal convention (the positivist view that property rights are created and defined by the state's legal system). Both formulations encounter severe difficulties when applied to fish in the sea.

The Lockean labour theory of property cannot straightforwardly ground property rights in fish, because fish cannot be cultivated in the same manner as land, and because the fish that a fisher catches today reproduces from a biological stock that the fisher did not create and cannot in any meaningful sense be said to own. The legal convention theory is more flexible: it can in principle define whatever property arrangements the state chooses to create. But it raises profound questions about the justice of those arrangements. If the state grants exclusive fishing rights over a valuable fish stock to a particular fisher or company, and that stock was built up over decades by the labour and management of an entire community of small-scale fishers, on what basis of justice is the exclusion of those fishers justified?

The standard economic analysis of fisheries, developed from H. Scott Gordon's 1954 article on the economic theory of a common-property resource, treats open-access fisheries as inevitably subject to the tragedy of the commons, the dynamic by which individually rational fishing behaviour, unconstrained by any system of property rights or regulation, leads to the over-exploitation and eventual collapse of the fish stock. Gordon's analysis was influential in shaping the policy consensus toward the creation of property rights in fisheries through instruments such as Individual Transferable Quotas (ITQs), which assign each fisher or company a specific share of the total allowable catch and permit the trading of those shares in a market. The ITQ system, adopted extensively in New Zealand, Iceland, and several other advanced fisheries jurisdictions, is designed to internalise the externality of over-fishing by giving each quota holder a private interest in the long-term health of the stock.

The ITQ system embodies a particular philosophical position: that the most effective way to govern a shared natural resource is to privatise it, to create defined and tradable property rights that align individual incentives with collective welfare. This position has been challenged on

multiple grounds. Elinor Ostrom's celebrated work, for which she received the Nobel Prize in Economics in 2009, demonstrated through extensive empirical research that communities have historically developed and maintained effective common pool resource management institutions without privatisation, through systems of communal governance, reciprocal obligation, and local ecological knowledge. Ostrom's work is directly relevant to fisheries governance in Bangladesh, where traditional fishing communities have for centuries maintained customary systems of resource management that have no counterpart in the formal legal framework but that embody considerable ecological wisdom and social legitimacy.

The capability approach of Amartya Sen, mentioned in Part Two, offers yet another philosophical framework for evaluating fisheries governance. On this approach, the measure of justice in fisheries policy is not the efficiency of resource allocation nor the maximisation of aggregate economic output, but the extent to which the governance system enables all affected people to live fully human lives. The capability of coastal fishing communities in Bangladesh to maintain their livelihoods, their cultural practices, their nutritional security, and their social relationships is directly affected by the fisheries governance framework, and any evaluation of that framework must take these capability dimensions into account.

The jurisprudential complexity of fish as a legal object is further deepened by the doctrine of the common heritage of mankind, discussed in Part One in the context of the deep seabed. While fish in the EEZ are clearly not common heritage in the technical legal sense, the natural law tradition that underpins the common heritage concept, the tradition that regards the ocean and its living resources as a gift of nature belonging to all humanity and not subject to private appropriation, persists as a moral and philosophical undercurrent in the discourse about fisheries governance. When small-scale fishing communities in Bangladesh protest the exclusion of foreign industrial trawlers from their traditional fishing grounds, they invoke a moral intuition grounded in this tradition, even if they do not articulate it in those jurisprudential terms.

1.2 Sovereign Rights over Living Resources: The EEZ Concept and its Implications

The establishment of the Exclusive Economic Zone under UNCLOS has created what is perhaps the most significant property-like arrangement for living marine resources in international law: the coastal state's sovereign rights over the living resources of the EEZ. This is not a property right in the domestic law sense; it is a form of functional sovereignty, a bundle of rights to explore, exploit, conserve, and manage living resources within a defined geographic zone, coupled with corresponding obligations of conservation, sustainable use, and cooperation.

The philosophical implications of this arrangement deserve careful analysis. The EEZ concept, by assigning sovereign rights over a vast area of ocean and its resources to a single coastal state, represents a fundamental departure from the principle of the freedom of the high seas and the common property character of marine living resources. It reflects a political judgment, embedded in the UNCLOS framework, that the effective conservation and management of fisheries requires the assignment of clear responsibility and authority to identifiable entities, namely coastal states, that have both the interest and the capacity to exercise such authority. This judgment was motivated in large part by the failure of the open-access regime of the high seas, which had produced widespread over-exploitation of fish stocks in the 1960s and 1970s as distant-water

fishing fleets from technologically advanced states decimated the fish populations of coastal states with far less fishing capacity.

The legal theory of the EEZ represents an attempt to reconcile the principle of coastal state sovereignty with the international community's interest in the conservation of living resources as a global public good. UNCLOS Articles 61 and 62 accomplish this reconciliation by requiring the coastal state to manage EEZ fisheries for the benefit of the coastal state and its people, but also to determine allowable catch on the basis of the best available scientific evidence, to cooperate with other states in managing shared and straddling stocks, and to provide access to surplus stocks to other states. These provisions impose genuine obligations on the coastal state, not merely conferring rights, and they create a framework of international accountability for the exercise of coastal state sovereign rights over living resources.

The interpretation of these obligations has been significantly clarified by the 2015 ITLOS Advisory Opinion in the Sub-Regional Fisheries Commission case (Case No. 21), which confirmed that the coastal state has not merely a right but a positive obligation to take the necessary measures to prevent, deter, and eliminate IUU fishing in its EEZ, and that this obligation is one of due diligence rather than strict result. The Tribunal's elaboration of the due diligence standard in the fisheries context, requiring the coastal state to adopt legislation and take enforcement measures adequate to the circumstances, is an important contribution to the jurisprudence of fisheries governance that has direct implications for the evaluation of Bangladesh's legal framework.

1.3 The Philosophy of Sustainability: Intergenerational Justice and the Precautionary Principle

The concept of sustainable development, enshrined in the 1987 Brundtland Report and embedded in the governance frameworks of UNCLOS, the UNFSA, and numerous other international instruments, carries a specific philosophical content that must be explicitly acknowledged in any serious commentary on fisheries governance. Sustainability, in the most philosophically rigorous sense, is about intergenerational justice: the obligation of the present generation to manage natural resources in a manner that does not impair the ability of future generations to meet their own needs. This is an obligation grounded in an ethical theory that extends the community of moral concern across time, not merely across space, and that imposes constraints on current behaviour in the name of future interests that cannot be represented in present political processes.

The application of intergenerational justice to fisheries governance raises profound and practically difficult questions. What level of fish stock depletion constitutes an intergenerational wrong? How should the costs of fisheries conservation, which fall on the present generation of fishers who must reduce their catch to allow stocks to recover, be weighed against the benefits to future generations? How should the deep uncertainty about future environmental conditions, which may change the productivity and distribution of fish stocks in ways we cannot foresee, affect present governance decisions? These are not merely technical questions amenable to straightforward scientific analysis; they are fundamentally normative questions that require

explicit philosophical choices about the nature of our obligations to future people and about the appropriate weight to give to future interests in present decision-making.

The precautionary principle, one of the foundational principles of modern environmental law and one of the key concepts in contemporary fisheries governance, represents one philosophical response to these questions. The precautionary principle holds that where there is scientific uncertainty about the risks of environmental harm, decision-makers should err on the side of caution, taking protective measures before full scientific certainty has been established. Applied to fisheries, the precautionary approach, as it is termed in the 1995 UNFSA and the FAO Code of Conduct for Responsible Fisheries, requires fisheries managers to set harvest limits conservatively in the face of scientific uncertainty, to use reference points as management benchmarks, and to take action to rebuild depleted stocks without waiting for definitive scientific proof of depletion.

The precautionary approach is philosophically grounded in a combination of intergenerational justice theory and risk aversion under uncertainty. It reflects the asymmetry of ecological outcomes: the cost of excessive caution (catching fewer fish than the stock might in principle have sustained) is generally reversible, while the cost of insufficient caution (depleting a stock to the point of commercial extinction or ecological collapse) may be irreversible across any relevant human time horizon. The hilsa fishery of Bangladesh, which has experienced significant pressures in recent decades, illustrates this asymmetry: the jatka ban and the breeding season closures that have been imposed to protect breeding populations impose short-term costs on fishers but are designed to prevent the irreversible depletion of a fishery upon which millions of livelihoods and a central element of national food culture depend.

The 2020 Marine Fisheries Act contains references to the precautionary approach, but these references are general and aspirational rather than operationally specific. The absence of specific precautionary reference points, specific targets for stock rebuilding, and specific provisions for management responses when stocks fall below reference points means that the precautionary approach in the 2020 Act is a principle without a mechanism, an aspiration without an institutional embodiment. This is a significant jurisprudential deficiency that the reform commentary in Chapter Thirteen will address in detail.

1.4 Legal Positivism, Natural Law, and the Governance of Marine Living Resources

The tension between legal positivism and natural law philosophy that runs through the entire history of the law of the sea, as traced in Part One, is particularly acute in the context of fisheries governance, and it manifests in ways that are practically significant for Bangladesh.

The positivist approach to fisheries law treats the rights and obligations of fishers, fishing companies, and states as entirely created and defined by the positive law: the statutes, regulations, and judicial decisions that constitute the formal legal framework. On this view, a fisher has the right to fish if and only if the positive law grants that right through a licence, permit, or other legal instrument, and the state's obligation to manage fisheries is defined entirely by the specific provisions of applicable legislation and international treaties.

The natural law approach, by contrast, regards fishers and fishing communities as having pre-legal rights to access and use living marine resources that are grounded in their historical relationship with those resources, their dependence upon them for survival, and the natural order that makes oceanic resources available to the human community. On this view, the positive law cannot simply extinguish the rights of traditional fishing communities through the grant of exclusive licences to commercial operators, because those communities have natural rights to subsistence and to the continuation of their traditional way of life that precede and constrain the positive law.

The conflict between these two philosophical positions is, in the Bangladeshi context, not merely academic. It plays out in the tension between the formal fisheries licensing system, which assigns rights to operate fishing vessels on the basis of registration, payment of fees, and compliance with technical requirements, and the customary fishing practices of traditional coastal communities, which have been based on historical access rights, communal governance norms, and ecological knowledge that predates the formal legal system by centuries. The 2020 Marine Fisheries Act does not explicitly address this tension, and its silence is a philosophical and practical deficiency.

The tradition of Islamic jurisprudence, which is part of the cultural and intellectual heritage of Bangladesh as a predominantly Muslim society, also has something to say about the governance of natural resources. The concept of hima in Islamic law, referring to protected areas set aside for the common good, and the doctrine of maslaha or public interest, which allows departure from strict legal rules when the common good demands it, provide resources within the Islamic legal tradition for thinking about sustainable fisheries governance, conservation, and community rights that have not been adequately explored in the academic literature on Bangladeshi maritime law. A genuinely comprehensive commentary on fisheries governance in Bangladesh must engage with this dimension of the legal and philosophical tradition.

CHAPTER 2: THE HISTORY OF MARINE FISHERIES GOVERNANCE IN BANGLADESH - FROM COLONIAL ADMINISTRATION TO THE 2020 ACT

2.1 Pre-Colonial and Colonial Maritime Fishing Traditions of Bengal

The fishing traditions of Bengal predate recorded history. Archaeological evidence and ancient literary sources document the central role of fish in the diet, economy, and culture of the peoples of Bengal from the earliest periods of settled civilization. The vast river systems of the Bengal Delta, the coastal estuaries of the Bay of Bengal, and the offshore waters of the Bay itself have supported fishing communities for millennia, developing over that time a rich fabric of customary practices, ecological knowledge, and communal governance arrangements that collectively constituted a de facto system of fisheries management long before any formal legal framework existed.

The Arthashastra of Kautilya, the ancient Indian political economy treatise dating from approximately the fourth century BCE, contains provisions relating to the governance of

fisheries that anticipate in some respects the concerns of modern fisheries law: the regulation of fishing gear, the prohibition of fishing in certain areas and seasons, and the collection of revenue from fishing activities. The traditions of the Sultanate of Bengal and the Mughal administration that followed included systems of fishing rights, taxation, and territorial allocation that assigned specific fishing grounds to particular communities or individuals under various forms of customary and administrative arrangement.

The Portuguese arrival at Chittagong in the early sixteenth century, followed by the Dutch and eventually the English East India Company, brought new fishing technologies, new commercial networks, and new forms of property relations to the coastal fishing economy of Bengal. The colonial period, which extended from the formal establishment of British colonial authority in Bengal in the late eighteenth century to independence and partition in 1947, brought significant changes to the governance of fisheries: the imposition of formal legal frameworks derived from British common law, the development of commercial fish export industries particularly for dried and smoked fish, and the incorporation of the fishing sector into the colonial revenue and regulatory system.

The Bengal Fisheries Act of 1908 was the principal colonial-era legislation governing fisheries in Bengal, and it established a regulatory framework that addressed the licensing of fishing, the protection of spawning grounds, and the prevention of the use of destructive fishing methods. This Act was principally focused on inland fisheries, reflecting the greater economic importance of river and floodplain fishing in the colonial economic system, but it established principles of fisheries governance that influenced subsequent legislation. The Act was administered by the provincial government of Bengal and the apparatus of district administration, without any specialised fisheries management institution.

The partition of Bengal in 1947 created significant disruptions for the fishing sector. The newly established state of Pakistan, of which East Bengal (subsequently East Pakistan and then Bangladesh) was a constituent part, inherited a legal framework designed for British India rather than for an independent developing state. The challenges of economic development, political instability, and the administrative distance between West Pakistan and the Bay of Bengal meant that marine fisheries governance in East Pakistan received limited attention from the central government. The fishing communities of the Bay of Bengal coast continued to practice traditional fisheries with limited formal governance, while the commercial fishing industry, such as it was, operated under a patchwork of inherited colonial legislation supplemented by occasional administrative orders.

The liberation war of 1971 and the emergence of Bangladesh as an independent state created both an opportunity and a challenge for the governance of marine fisheries. The opportunity was to build a genuinely national and developmentally oriented fisheries governance framework appropriate to the needs and aspirations of the new state. The challenge was the enormous difficulty of doing so in the context of the physical destruction and administrative disruption caused by the war, the competing demands of reconstruction across all sectors of governance, and the limited institutional capacity of the new state in areas of technical governance including fisheries management. The founding government of Sheikh Mujibur Rahman prioritised food production generally, including fisheries development, as a matter of national survival, but the

specific development of a comprehensive marine fisheries governance framework was not among the first legislative priorities of the new state.

2.2 The Marine Fisheries Ordinance of 1983

The Marine Fisheries Ordinance of 1983 (Ordinance No. XXXV of 1983) was the first dedicated piece of legislation specifically addressing the governance of marine fisheries in Bangladesh. It was enacted as an Ordinance rather than as a Parliamentary Act, reflecting the political circumstances of the time, when the country was under martial law following the successive coups of 1975 and the subsequent period of military rule under General Ziaur Rahman and General Hussain Muhammad Ershad. The Ordinance form has been criticised by constitutional scholars as a deficient mode of lawmaking for legislation of this significance, since it bypasses the deliberative and representative functions of parliament and substitutes the executive discretion of the military government for the legislative judgment of elected representatives. This criticism carries particular weight in the context of fisheries governance, where the legitimacy of the regulatory framework depends in part on the participation of fishing communities and other stakeholders in its development.

The 1983 Ordinance established a framework for the governance of Bangladesh's marine fisheries that remained in place, with various amendments, for nearly four decades. Its principal provisions addressed the establishment of marine fisheries waters (defined as the sea area within the maritime zones of Bangladesh), the licensing of fishing vessels, the prohibition of fishing in closed areas and seasons, the protection of the Exclusive Economic Zone from foreign fishing, and the penalties for violations. The Ordinance also established the Director of Fisheries as the primary regulatory authority for marine fisheries, a concentration of authority in a single official that would prove administratively problematic in the subsequent decades.

The 1983 Ordinance was, from the perspective of contemporary international fisheries law standards, a very thin and inadequate instrument. It contained no provisions on stock assessment, no requirements for the determination of total allowable catch on a scientific basis, no mechanism for adaptive management in response to changing stock conditions, no provisions on ecosystem effects of fishing or bycatch management, no specific provisions on IUU fishing in the modern sense of that concept, and no meaningful engagement with the rapidly developing international framework of fisheries governance that was being articulated in the UNCLOS III negotiations concurrent with its drafting. The Ordinance was, in essence, a regulatory framework designed to control who fished and to some extent where and when they fished, rather than a fisheries management framework designed to ensure the long-term sustainability of fish stocks and the equitable distribution of benefits from fisheries resources.

Several specific deficiencies of the 1983 Ordinance deserve particular mention in this historical context because they are relevant to evaluating how far the 2020 Act has progressed in addressing them.

First, the Ordinance made no provision for fisheries management planning. There was no requirement for the government to develop or publish fisheries management plans setting out objectives, targets, management measures, and monitoring arrangements for any particular

fishery or stock. This absence of planning requirements meant that fisheries governance was conducted on an ad hoc basis, responding to immediate pressures rather than managing fisheries in accordance with long-term sustainability objectives.

Second, the Ordinance contained no provisions on environmental impact assessment for fisheries activities, on bycatch limits, on the protection of non-target species including sea turtles, sharks, dolphins, and juvenile fish, or on the preservation of critical habitats such as coral reefs, seagrass beds, and mangrove nursery areas. These ecological dimensions of fisheries governance, now central to modern fisheries law, were essentially absent from the 1983 framework.

Third, the penalty provisions of the 1983 Ordinance were grossly inadequate as deterrents for commercial-scale fishing violations. The fines specified in the Ordinance, calculated in a pre-inflationary era and not indexed to inflation or to the value of fisheries resources, became de minimis in real terms as decades passed, providing no meaningful financial deterrent to violations. The penalty system also failed to address the economic incentives for IUU fishing in any systematic way, since it did not provide for the confiscation of the value of illegally caught fish or the suspension of fishing licences as enforcement tools.

Fourth, the institutional framework established by the Ordinance was wholly inadequate for the demands of modern fisheries governance. The concentration of authority in the Director of Fisheries, without adequate supporting institutions, scientific advisory bodies, monitoring systems, or enforcement capacity, meant that the regulatory framework existed largely on paper rather than in operational reality. The Department of Fisheries, the primary institution responsible for implementing the Ordinance, lacked the vessels, the personnel, the technical equipment, and the data systems required for effective fisheries monitoring and enforcement in an EEZ of 118,813 square kilometres.

These deficiencies of the 1983 Ordinance were well recognised by fisheries scholars and policy analysts from an early stage, and proposals for comprehensive reform were periodically advanced in the academic literature and in policy documents. But the legislative reform took until 2020 to materialise, a delay of nearly four decades that reflects the structural challenges of maritime governance reform in Bangladesh, including the competing demands on the legislative agenda, the limited political salience of marine fisheries governance compared to other policy priorities, the inadequacy of institutional capacity in the maritime legal field, and the political economy of the fishing industry, which includes both powerful commercial interests that may resist reform and numerous small-scale fishing communities whose interests have not been adequately represented in the policymaking process.

2.3 The Reform Process Leading to the Marine Fisheries Act 2020

The process that led to the enactment of the Marine Fisheries Act 2020 was long and complex. Various drafts and proposals had circulated in government and academic circles for many years before the final Act was adopted. The process was informed by, among other things, Bangladesh's accession to UNCLOS in 2001, the successful resolution of its maritime boundary disputes with Myanmar and India in 2012 and 2014, the government's articulation of a blue economy strategy, Bangladesh's membership of the Indian Ocean Tuna Commission (IOTC), the

Asia Pacific Fisheries Commission (APFIC), and the Bay of Bengal Programme Intergovernmental Organisation (BOBP-IGO), and the growing body of international technical assistance and academic analysis of Bangladesh's fisheries governance needs.

The reform process was also shaped, in important ways, by the practical experience of implementing the 1983 Ordinance and its amendments over the decades. The hilsa fishing crisis of the 1990s and 2000s, in which hilsa stocks declined significantly due to overfishing and habitat degradation, prompted the introduction of the jatka ban (protecting juvenile hilsa) and the Maa Ilish (Mother Hilsa) programme for protecting breeding females during the spawning season, and these conservation initiatives generated both scientific evidence of the need for stock-based management and political momentum for legislative reform. The growing problem of IUU fishing by both domestic and foreign vessels in Bangladesh's EEZ, highlighted by annual reporting by the International Maritime Bureau and by regional fisheries bodies, also contributed to the sense that the 1983 Ordinance's enforcement framework was woefully inadequate.

The Marine Fisheries Act 2020 was eventually enacted after stakeholder consultations that included industry representatives, though critics have argued that the consultation process was less inclusive of small-scale fishing communities and civil society than it should have been. The Act was formally adopted by the Parliament of Bangladesh and represented a significant improvement over the 1983 Ordinance in several important respects, but, as the detailed commentary in subsequent chapters will demonstrate, it also retained and perpetuated several of the fundamental deficiencies of the older framework and introduced new problems of its own.

CHAPTER 3: THE INTERNATIONAL LEGAL FRAMEWORK FOR FISHERIES GOVERNANCE - UNCLOS, THE UNFSA, ADVISORY OPINIONS, AND EMERGING NORMS

3.1 UNCLOS and the Legal Framework for EEZ Fisheries

The international legal framework for the governance of marine fisheries is, like most areas of international law, a complex and layered system of treaty obligations, customary international law norms, binding and non-binding decisions of international tribunals and bodies, and soft law instruments developed through intergovernmental and expert processes. Understanding this framework is essential to any critical evaluation of Bangladesh's domestic fisheries legislation.

The foundational instrument is UNCLOS itself, whose provisions on living resources are distributed across multiple parts of the Convention but are concentrated in Part V (the Exclusive Economic Zone, Articles 55 to 75), Part VII (the High Seas, Articles 116 to 120), and Part XII (Protection and Preservation of the Marine Environment, Articles 192 to 237). The key fisheries provisions are Articles 61 through 67, which establish the coastal state's obligations and rights in relation to EEZ living resources.

Article 61 establishes the coastal state's obligation to determine the allowable catch of living resources in its EEZ on the basis of the best scientific evidence available. This determination is

not discretionary; it is an obligation, and it carries with it the obligation to ensure through proper conservation and management measures that the maintenance of living resources in the EEZ is not endangered by over-exploitation. The standard against which harvest levels are to be measured is the maximum sustainable yield as qualified by relevant environmental and economic factors, with the aim of maintaining or restoring populations of harvested species at levels which can produce this maximum sustainable yield. The obligation to take account of associated and dependent species, including non-target species affected by the harvesting, is explicitly included.

Article 62 establishes the obligation to promote the objective of optimum utilisation of the living resources in the EEZ, requiring the coastal state to determine its capacity to harvest the living resources and to give other states access to the surplus of allowable catch that the coastal state does not itself have the capacity to harvest. The optimum utilisation standard is distinct from, and potentially in tension with, the conservation obligation in Article 61: Article 62 imposes an obligation to use resources efficiently, while Article 61 imposes an obligation to conserve them sustainably. The resolution of this tension requires the exercise of scientific and managerial judgment that, as discussed below, Bangladesh's current governance framework is not adequately equipped to provide.

Article 63 addresses straddling and shared stocks, requiring states whose EEZs overlap with stocks that occur in both zones to seek agreement on the necessary measures for the conservation of those stocks. This provision is directly relevant to Bangladesh's situation in relation to shared hilsa stocks with India and Myanmar, shared tuna and pelagic species with the wider Indian Ocean community, and shared demersal stocks with India in the northern Bay of Bengal. The 2020 Act's silence on transboundary stocks, as noted in the earlier Parts, is a significant deficiency in relation to Article 63 obligations.

Article 64 imposes a duty of cooperation in relation to highly migratory species, requiring all states, including the coastal state and distant-water fishing states, to cooperate in ensuring the conservation and promoting the optimum utilisation of such species throughout the region, both within and beyond the EEZ. Bangladesh's membership of the IOTC is the primary vehicle for fulfilling this obligation in relation to tuna and tuna-like species.

Article 65 addresses marine mammals, providing that states shall cooperate with a view to the conservation of marine mammals and, in the case of cetaceans, shall in particular work through the appropriate international organisations for their conservation, management, and study. Article 66 addresses anadromous species such as salmon, which originate in the rivers of one state, migrate through the EEZ and high seas of other states, and return to spawn in their rivers of origin. Article 67 addresses catadromous species such as eels, which spawn in the deep ocean and mature in freshwater rivers and estuaries. Both provisions assign primary responsibility for management to the state of origin of the species, reflecting the ecological reality that these species are most closely connected to the river systems in which they reproduce.

3.2 The 1995 UN Fish Stocks Agreement

The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of

Straddling Fish Stocks and Highly Migratory Fish Stocks, concluded in August 1995, is the second most important international fisheries treaty after UNCLOS itself. It was negotiated in response to the growing evidence that the UNCLOS framework was inadequate to prevent the over-exploitation of the straddling and highly migratory fish stocks that had been declared common heritage by UNCLOS but were in practice being fished to exhaustion by distant-water fleets operating in the unregulated expanse of the high seas.

The 1995 UNFSA is, from a jurisprudential perspective, a remarkable instrument. It operationalises the precautionary approach in specific and detailed terms, requiring states to apply the precautionary approach widely to conservation, management, and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment. It establishes specific provisions for precautionary reference points, requiring states to determine stock-specific reference points of the kind that will provide a trigger for precautionary management action and to take action to rebuild stocks that have fallen below such reference points.

The UNFSA also introduced the concept of ecosystem-based fisheries management into a legally binding international instrument for the first time, requiring states to adopt measures to minimise impacts on species belonging to the same ecosystem or associated with or dependent upon the target stocks, and to protect biodiversity in the marine environment. This provision represents a significant jurisprudential development: it moves fisheries law from a species-specific, harvest-oriented framework to an ecosystem-oriented framework that acknowledges the complex ecological interactions among species and between species and their environment.

Bangladesh became a party to the UNFSA, though the country's engagement with the implementation of the Agreement's specific provisions in its domestic legislation has been limited. The 2020 Marine Fisheries Act does not specifically reference the UNFSA or implement its precautionary approach and ecosystem management provisions in any systematic way. This is a significant compliance gap that is analysed in detail in Chapter Six.

3.3 The 2015 ITLOS Advisory Opinion on Fisheries Governance: Flag State Responsibility and Coastal State Due Diligence

The Advisory Opinion delivered by the International Tribunal for the Law of the Sea on 2 April 2015 in Case No. 21, in response to a request from the Sub-Regional Fisheries Commission (SRFC) of West Africa, is one of the most significant judicial contributions to the international law of fisheries governance. The Opinion addressed four questions relating to the obligations of flag states and coastal states in relation to IUU fishing in the exclusive economic zones of SRFC member states, and its reasoning and conclusions have implications that extend far beyond the West African context to the fisheries governance obligations of all UNCLOS states parties, including Bangladesh.

The Tribunal confirmed that coastal states, in light of their special rights and responsibilities in the EEZ, have the primary responsibility and indeed an obligation to take the necessary measures to prevent, deter, and eliminate IUU fishing in their exclusive economic zones. This is not merely a right of enforcement that the coastal state may choose to exercise or not; it is a positive

obligation, grounded in the due diligence standard, to take all necessary measures to ensure compliance with its fisheries laws and regulations. The due diligence standard requires the coastal state to adopt legislation adequate to the circumstances, to establish monitoring, control, and surveillance systems appropriate to its fisheries, and to take enforcement action against vessels detected in violation of its laws.

The Opinion also confirmed, for the first time in binding international jurisprudence, that flag states have obligations under UNCLOS to ensure that vessels flying their flags comply with the fisheries legislation of coastal states when operating in their EEZs. The flag state obligation is grounded in Articles 62(4), 58(3), and 192 of UNCLOS, and it requires the flag state to take all necessary measures, including the adoption of legislation and enforcement action, to ensure that its vessels comply with the coastal state's fisheries laws. This is an important development because it creates a parallel framework of international accountability alongside the coastal state's primary enforcement jurisdiction.

For Bangladesh, the 2015 Advisory Opinion has two dimensions of relevance. As a coastal state with an EEZ of 118,813 square kilometres, Bangladesh has a positive due diligence obligation to take necessary measures to prevent IUU fishing in its EEZ, and its compliance with this obligation must be evaluated against the standard articulated by the Tribunal. As a flag state, Bangladesh has obligations to ensure that vessels flying the Bangladesh flag comply with the fisheries laws of other coastal states when operating in their EEZs, an obligation that Bangladesh has not fully addressed in its domestic legal framework. Both dimensions are relevant to the commentary on the 2020 Marine Fisheries Act.

3.4 The FAO Code of Conduct for Responsible Fisheries and Related Instruments

The FAO Code of Conduct for Responsible Fisheries, adopted by the FAO Conference in Rome in October 1995, is the primary soft law framework governing fisheries management internationally. While non-binding, the Code of Conduct has achieved a degree of normative authority through its near-universal acceptance by states and its incorporation by reference in numerous bilateral and multilateral agreements and national legislation. It elaborates, in accessible and practically oriented language, the principles of responsible fisheries management that have subsequently been incorporated into binding international instruments including the UNFSA and the Port State Measures Agreement.

The Code of Conduct is organised around ten articles addressing: nature and scope, objectives and relationship with other instruments, implementation, monitoring and review, fisheries management, fishing operations, aquaculture development, integration of fisheries into coastal area management, post-harvest practices and trade, and fisheries research. The fisheries management article (Article 7) is the most relevant to the commentary in this Part; it addresses, inter alia, the precautionary approach, the use of best available scientific evidence, ecosystem considerations, co-management, fishing capacity management, and the long-term sustainability of fisheries.

Bangladesh has formally endorsed the Code of Conduct and has committed to implementing its provisions, but the translation of this commitment into domestic legislation has been incomplete.

The 2020 Marine Fisheries Act incorporates some of the Code's concepts, but it does not provide the operational framework needed for systematic implementation of the Code's provisions on precautionary management, ecosystem-based approaches, co-management, or fishing capacity control.

The FAO Voluntary Guidelines for Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted in 2015, are of particular relevance to Bangladesh, given the enormous importance of small-scale fishing in its marine fisheries sector. These guidelines call for a human rights-based approach to small-scale fisheries governance, requiring states to respect, protect, and fulfil the human rights of small-scale fishers, workers, and communities, including their right to food, their right to livelihoods, and their cultural rights. The 2020 Act does not explicitly adopt a human rights-based approach to small-scale fisheries, and this is an important gap that will be addressed in the reform recommendations.

The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA), which entered into force in June 2016, is the first binding international instrument specifically targeting IUU fishing and represents a significant development in the global architecture for fisheries enforcement. The PSMA requires parties to deny port entry and services to vessels engaged in IUU fishing, to inspect vessels in port and share information about IUU fishing vessels with other states, and to maintain records of inspections and violations. Bangladesh has not yet ratified the PSMA, a gap that is particularly significant given the role that port state controls could play in combating IUU fishing in the Bay of Bengal. The ratification and implementation of the PSMA is one of the most important specific recommendations of this Part.

3.5 The WTO Agreement on Fisheries Subsidies

A significant recent development in the international legal framework for fisheries governance is the WTO Agreement on Fisheries Subsidies, adopted at the WTO's Twelfth Ministerial Conference in Geneva in June 2022. The Agreement prohibits or restricts subsidies that contribute to overfishing and IUU fishing, including subsidies to vessels that have been engaged in IUU fishing and subsidies that support fishing of stocks that are already overfished. It is the first WTO agreement with explicit environmental sustainability objectives and represents a significant development in the intersection of international trade law and fisheries conservation law.

For Bangladesh, the WTO Fisheries Subsidies Agreement has several important implications. Bangladesh provides various forms of subsidy to its fishing sector, including subsidised diesel fuel for fishing vessels, reduced registration fees for fishing vessels, and various forms of credit and insurance support to fishing communities. The compatibility of these subsidy arrangements with the WTO Agreement requires careful legal analysis, which the 2020 Marine Fisheries Act does not address. The Agreement's prohibition of subsidies to vessels engaged in IUU fishing also provides a potential tool for using trade policy as a lever to improve IUU fishing enforcement, though this tool has not yet been systematically applied in the Bay of Bengal context.

The interplay between the WTO Fisheries Subsidies Agreement, UNCLOS, the UNFSA, and domestic fisheries legislation represents a complex multi-layered governance challenge that is at the frontier of international fisheries law. Bangladesh's fisheries governance framework will need to engage with this complexity as the implementation of the WTO Agreement proceeds.

CHAPTER 4: THE MARINE FISHERIES ACT 2020 - STRUCTURE, ARCHITECTURE, AND GENERAL COMMENTARY

4.1 Legislative Architecture and Scope

The Marine Fisheries Act 2020 (Act No. [Year]) is a comprehensive piece of legislation consisting of sixty-four sections organised into chapters addressing the scope and definitions of the Act, the governance of marine fisheries waters, the control of fishing activities, the establishment of marine protected areas, the control of IUU fishing, the provisions on licensing and registration, environmental protection, enforcement powers, penalties and offences, and miscellaneous provisions. The Act also provides for the making of rules and regulations under its delegated powers provisions, and it explicitly repeals the Marine Fisheries Ordinance of 1983 and the Marine Fisheries (Amendment) Ordinance of 1984.

The scope of the Act covers Bangladesh's Marine Fisheries Waters, defined as the territorial sea, the contiguous zone, and the exclusive economic zone of Bangladesh as defined in the Territorial Waters and Maritime Zones Act 1974 (as amended) and in the maritime boundary awards of 2012 and 2014. The definition of marine fisheries waters is appropriately comprehensive, covering all of Bangladesh's maritime zones in which fishing activities are subject to regulation.

The definition provisions of the Act address, inter alia, the definitions of fishing vessel, fish, illegal fishing, unreported fishing, unregulated fishing, marine protected area, authorised officer, and marine fishing area. The definition of IUU fishing broadly follows the international definitions established in the FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) of 2001, which is a positive development compared to the 1983 Ordinance's implicit and partial treatment of the same concept.

The Act establishes the Department of Fisheries as the primary administrative authority for marine fisheries governance, maintaining the institutional framework of the 1983 Ordinance while expanding somewhat the specific powers and functions of the Director of Fisheries and the Inspector-level officials of the Department. The Bangladesh Navy and the Bangladesh Coast Guard are designated as authorised officers for enforcement purposes, as are customs officials and other government officers as may be designated by gazette notification.

The Act provides for the establishment of a National Marine Fisheries Management Council and a Science and Technology Advisory Committee for Marine Fisheries, institutions that are potentially significant improvements over the 1983 Ordinance's purely administrative framework. However, as discussed in Chapter Eleven on institutional architecture, the detailed

provisions governing these bodies in the Act are inadequate to ensure their independence, technical competence, and effective operation.

4.2 The Conservation and Management Framework

The conservation and management provisions of the 2020 Act represent the most important substantive improvement over the 1983 Ordinance. The Act explicitly requires the government to ensure the conservation and sustainable utilisation of marine fisheries resources, incorporating the language of sustainability from international instruments. It provides for the establishment of management plans for marine fisheries, requiring the Director of Fisheries to prepare and implement management plans for important commercial fisheries, though the specific requirements for what these plans must contain are not elaborated in detail in the Act itself.

The Act provides for the determination of total allowable catch for specific fisheries, a concept that was entirely absent from the 1983 Ordinance. The total allowable catch provision requires the Director of Fisheries to determine, on the basis of the best available scientific evidence, the maximum catch that may be sustainably harvested from a specific fishery in a specific period, and to set licensing and quota arrangements to ensure that actual catch does not exceed this level. This is, in principle, a significant step toward scientifically grounded fisheries management. In practice, however, the implementation of total allowable catch management requires scientific stock assessment capacity that Bangladesh currently does not possess in adequate measure, and the Act does not provide the institutional framework or funding mechanisms required to develop this capacity.

The Act contains provisions on fishing seasons and closed areas, authorising the Director of Fisheries to establish closed seasons for specific fisheries and to designate areas of Bangladesh's Marine Fisheries Waters as closed to fishing or subject to specific gear or vessel restrictions. These provisions are consistent with existing practices under the 1983 Ordinance and its rules, including the hilsa breeding season closure and the jatka ban, but they give these practices a clearer legal basis in the new Act.

The Marine Protected Area (MPA) provisions of the 2020 Act are a significant new element compared to the 1983 Ordinance. The Act provides for the designation of marine protected areas within Bangladesh's Marine Fisheries Waters and sets out a process for their establishment, including a requirement for scientific assessment of the proposed MPA, consultation with affected communities and stakeholders, and gazette notification. The management of MPAs is to be governed by specific management plans, which must address the objectives of the MPA, the permitted and prohibited activities within the MPA, and monitoring and enforcement arrangements.

The inclusion of MPA provisions in the Marine Fisheries Act 2020 is consistent with international best practice and with Bangladesh's obligations under UNCLOS Part XII and the Convention on Biological Diversity. However, there are several concerns about the MPA framework as currently structured. The Act does not specify minimum targets for MPA coverage, either in terms of percentage of the total EEZ area or in terms of the range of habitats and ecosystems to be included. It does not require that MPAs be representative of the full range

of marine habitats in Bangladesh's EEZ. And it does not address the relationship between the MPA framework in the Marine Fisheries Act and any MPAs that might be designated under other legislation, particularly the Wildlife (Conservation and Security) Act 2012, which provides a separate framework for the protection of marine species and habitats.

4.3 The Precautionary Principle in the 2020 Act: Promise and Inadequacy

The 2020 Act makes specific reference to the precautionary principle in a manner that marks a significant philosophical and doctrinal advance over the 1983 Ordinance. The Act states that in formulating fisheries management plans and in making decisions about total allowable catch and fishing effort, the authority shall apply the precautionary approach. This is an important statement of legal principle, consistent with the UNFSA and the FAO Code of Conduct.

However, the Act does not operationalise the precautionary principle through the specific mechanisms that give it practical effect in advanced fisheries governance systems. The UNFSA requires the identification of precautionary reference points, specifically limit reference points and target reference points for each assessed fish stock, and specifies that when a limit reference point is approached, management action shall be taken to ensure that the reference point is not exceeded, and that if a stock falls below a limit reference point, management action shall be taken to facilitate stock recovery. The 2020 Act contains no comparable provisions for stock-specific reference points, no trigger mechanisms for management responses to stock declines, and no requirements for stock recovery plans when stocks are assessed as depleted.

This gap between the rhetorical commitment to the precautionary principle in the Act and the operational framework required to give that commitment practical effect is one of the most significant jurisprudential deficiencies of the 2020 legislation. The precautionary principle, as interpreted by ITLOS in its Advisory Opinions and by the ICJ in the Pulp Mills and Whaling in the Antarctic cases, requires more than a general statement of intention; it requires the establishment of specific decision-making processes, reference points, and management triggers that operationally embed the precautionary approach in fisheries governance decisions.

The lack of operationalisation also creates a constitutional law concern. If the precautionary principle is stated as a governing principle of the Act but its content is not specified in the Act itself, and if management decisions can be made without reference to specific precautionary criteria, then the principle becomes unenforceable in any practically meaningful sense. The courts cannot review a management decision for compliance with an undefined principle, and administrative officials cannot be held accountable for failing to apply a principle whose content is not specified. The operationalisation of the precautionary principle is therefore not merely a technical fisheries management issue; it is a rule of law issue, bearing on the justiciability and accountability of fisheries governance decisions.

4.4 The Ecosystem-Based Management Framework in the 2020 Act

The 2020 Act makes reference to ecosystem-based management in terms that acknowledge the importance of the ecological context of fisheries. The Act requires that fisheries management plans shall take into account the effects of fishing on the marine ecosystem, including impacts on

non-target species, habitats, and ecosystem services. This is a significant step beyond the purely species-specific framework of the 1983 Ordinance, which took no account of ecosystem effects whatsoever.

However, the ecosystem-based management framework of the 2020 Act is, like its precautionary principle framework, more aspirational than operational. The Act does not define what constitutes an ecosystem-based management approach, does not specify the ecological indicators that must be monitored as part of fisheries management, does not require ecosystem impact assessments before new fisheries are opened or existing fisheries are significantly expanded, and does not establish the institutional framework for the collection and analysis of ecosystem-level data required for genuine ecosystem-based management.

The concept of ecosystem-based fisheries management (EBFM) is well developed in the international scientific and policy literature, and several advanced fisheries jurisdictions have implemented EBFM frameworks with significant success. The EBFM approach requires the definition of an ecosystem being managed, typically a Large Marine Ecosystem (LME) or a defined sub-area of the ocean; the establishment of ecosystem-level objectives covering ecological, economic, and social dimensions; the monitoring of ecosystem condition through a suite of ecological and social indicators; and the adjustment of fishing mortality and other management measures in response to changes in ecosystem condition. The Bay of Bengal Large Marine Ecosystem (BOBLME), one of the world's major LMEs, provides an appropriate ecological context for the application of EBFM principles to Bangladesh's marine fisheries, and the existing BOBLME project provides scientific and institutional infrastructure that could be leveraged for this purpose.

The failure of the 2020 Act to establish a genuine EBFM framework is both a scientific deficiency and a legal one. The Act's obligations regarding ecosystem effects of fishing cannot be practically implemented without the institutional and scientific infrastructure for EBFM, and their absence means that the Act's ecological protections remain theoretical rather than practical. This is particularly concerning given the rapidly changing ecological conditions in the Bay of Bengal associated with climate change, including warming waters, altered ocean circulation patterns, shifts in species distribution, and increased frequency of extreme weather events, all of which require adaptive, ecosystem-level management responses that the current framework cannot provide.

4.5 Bycatch Management and the Protection of Non-Target Species

One of the most important practical dimensions of modern fisheries governance is the management of bycatch, the incidental capture of non-target species during fishing operations. Bycatch is one of the most significant environmental impacts of commercial fishing, responsible for the deaths of hundreds of millions of non-target fish, sea turtles, marine mammals, seabirds, and invertebrates annually worldwide. The management of bycatch is now central to modern fisheries law, addressed in the UNFSA, the FAO Code of Conduct, and numerous national fisheries management frameworks.

Bangladesh's marine fisheries are characterised by particularly high levels of bycatch, especially in the demersal trawl fisheries that operate in the inshore and offshore waters of the Bay of Bengal. Estimates suggest that bycatch levels in Bangladesh's shrimp trawl fisheries may be among the highest in the world, with some estimates suggesting that bycatch may account for eighty to ninety per cent of the total catch by weight in some fisheries. This bycatch includes juvenile fish of commercially important species including hilsa, juvenile shrimp, sea turtles, dolphins, and numerous other marine animals.

The 2020 Act addresses bycatch management through provisions requiring fisheries management plans to include measures to minimise bycatch and requiring the use of bycatch reduction devices where specified by the authority. The Act specifically references the requirement for turtle excluder devices (TEDs) on shrimp trawlers, a requirement that had been introduced under the 1983 Ordinance framework and that reflects Bangladesh's obligations under the Convention on International Trade in Endangered Species (CITES) and its conservation obligations under UNCLOS Article 65.

However, the bycatch management provisions of the 2020 Act are still inadequate by contemporary international standards. The Act does not establish specific bycatch limits or caps for any fishery. It does not require the reporting of bycatch as part of the catch data that licensed vessels must submit. It does not require the documentation of bycatch composition in scientific monitoring programmes. And it does not address the systemic problem of discarding, the practice of returning non-target catch to the sea (usually dead) when it is not commercially valuable, which is a significant source of fish mortality that is entirely invisible in the official catch statistics.

The bycatch problem in Bangladesh's trawl fisheries is not merely an environmental issue; it is a food security and social justice issue. Much of the bycatch in Bangladesh's shrimp trawl fisheries consists of juvenile fish that would, if they survived to maturity, provide food and income for coastal fishing communities. The systemic discarding of juvenile fish to enable the capture and export of high-value shrimp is a classic example of the kind of perverse economic incentive that a well-designed fisheries governance framework should prevent, but that the current framework inadequately addresses.

CHAPTER 5: IUU FISHING IN BANGLADESH'S MARITIME ZONES - LEGAL FRAMEWORK, ENFORCEMENT CHALLENGES, AND REFORM

5.1 Defining IUU Fishing in the Bangladesh Context

Illegal, unreported, and unregulated (IUU) fishing is one of the most serious threats to the sustainability of Bangladesh's marine fisheries, to the conservation of the Bay of Bengal ecosystem, and to the livelihoods of small-scale fishing communities who depend on fish stocks that are depleted by uncontrolled fishing. The concept of IUU fishing, as defined in the FAO IPOA-IUU of 2001 and incorporated in the 2020 Marine Fisheries Act, encompasses three distinct but overlapping categories of problematic fishing behaviour.

Illegal fishing refers to fishing activities conducted by national or foreign vessels in waters under the jurisdiction of a state without the permission of that state or in contravention of its laws and regulations, including fishing activities carried out by vessels of states that are parties to a relevant regional fisheries management organisation in a manner inconsistent with the conservation and management measures adopted by that organisation.

Unreported fishing refers to fishing activities that have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations. In the Bangladesh context, unreported fishing is a pervasive problem: significant portions of the catch in both the artisanal and industrial fishing sectors are not accurately reported to the Department of Fisheries, making it impossible to accurately assess the true level of fishing mortality on stocks or to determine whether total allowable catch levels are being respected.

Unregulated fishing refers to fishing activities in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with state responsibilities for the conservation of living marine resources under international law. In the Bangladesh context, this category is relevant to fishing activities in the high seas areas adjacent to Bangladesh's EEZ, where fishing vessels from Bangladesh and other states may operate without adequate governance.

The most recent published research on IUU fishing in Bangladesh, including the December 2024 Springer Nature Marine Development article on international legal arrangements for IUU fishing in Bangladesh, confirms that IUU fishing remains a major challenge despite the 2020 Act's improvements. The article notes that Bangladesh faces significant challenges with IUU fishing due to inadequate regulations, weak enforcement, and poor management, and that foreign intrusions, unauthorized trawlers, and local violations continue to exacerbate the depletion of crucial fish species and the loss of biodiversity.

5.2 The Scale and Nature of IUU Fishing in Bangladesh's EEZ

The International Maritime Bureau, whose Piracy Reporting Centre publishes annual reports on maritime crime in the Indian Ocean region, has consistently documented incidents of fishing vessel violations in the Bay of Bengal. The specific scale of IUU fishing in Bangladesh's EEZ is difficult to quantify precisely because, by definition, IUU fishing is not reported in official statistics, but various estimates suggest that it constitutes a significant proportion of the total catch from Bangladesh's maritime zones.

Foreign IUU fishing in Bangladesh's EEZ is conducted primarily by vessels from India and Myanmar, which have historically fished in areas that were disputed or inadequately monitored before the maritime boundary awards of 2012 and 2014. Following the clarification of Bangladesh's maritime boundaries, the legal basis for such fishing is clearly absent, but the practical enforcement challenge remains significant. India and Myanmar are not parties to bilateral fisheries agreements with Bangladesh that would provide a framework for access or enforcement cooperation, and the surveillance and interdiction capacity of the Bangladesh Coast Guard and Navy in the outer EEZ is limited relative to the geographic scale of the enforcement task.

Domestic IUU fishing encompasses a range of violations including fishing without a valid licence, fishing in closed areas or during closed seasons, fishing with prohibited gear including use of fine mesh nets below legal minimum sizes, violation of bycatch mitigation requirements such as failure to use required turtle excluder devices, and significant under-reporting of catch. The prevalence of domestic IUU fishing is exacerbated by several structural factors: the large number of fishing vessels and fishers involved in artisanal and small-scale fisheries, the inadequacy of the licensing system in covering all active fishing operators, the weakness of monitoring and reporting systems, and the inadequacy of the penalty regime as a deterrent for commercially motivated violations.

The economic impact of IUU fishing in Bangladesh's EEZ is substantial. Studies have estimated that IUU fishing in the wider Indian Ocean region removes billions of dollars of value annually from coastal fishing economies, contributing to stock depletion, reduced catch per unit effort for licensed fishers, and long-term decline in the productivity of fisheries that are essential for food security and livelihoods. For Bangladesh, a country in which marine fisheries make a critical contribution to nutrition, employment, and export earnings, the control of IUU fishing is not merely a law enforcement issue; it is a matter of national food security and equitable economic development.

5.3 The 2020 Act's IUU Provisions: A Critical Assessment

The Marine Fisheries Act 2020 contains a dedicated chapter on the control of illegal, unreported, and unregulated fishing, which represents a significant conceptual advance over the 1983 Ordinance's essentially implicit treatment of these issues. The Act explicitly defines IUU fishing by reference to the FAO IPOA-IUU categories, provides for specific enforcement powers for authorised officers in relation to IUU fishing vessels, establishes penalties for IUU fishing offences, and provides for the publication of an IUU fishing vessel list by the Department of Fisheries.

The penalty provisions for IUU fishing in the 2020 Act represent a significant improvement over the 1983 Ordinance. Fines for serious IUU fishing violations can reach substantial amounts, vessel confiscation is provided for in cases of serious or repeated violations, and licence revocation is available as an administrative sanction. The Act also provides for the possibility of imprisonment for IUU fishing offences in serious cases, though the practical application of imprisonment provisions in fisheries enforcement contexts is complex and raises human rights concerns that require careful management.

However, the IUU provisions of the 2020 Act have several significant limitations that undermine their effectiveness in practice.

First, the Act does not establish a Vessel Monitoring System (VMS) as a mandatory requirement for all licensed fishing vessels above a specified size. VMS, which uses satellite transponder technology to track the position and movement of fishing vessels in real time, is now a standard element of modern fisheries monitoring and enforcement systems worldwide, and it is specifically referenced in the FAO IPOA-IUU as an essential tool for combating IUU fishing. While the Act does empower the authority to require VMS or other electronic tracking systems,

it does not mandate them, leaving the implementation of VMS to administrative discretion and creating a significant gap in the monitoring and control system.

Second, the Act does not establish a comprehensive catch documentation scheme (CDS) for major fisheries. A CDS requires that all catches of specified species, from the point of harvest through the chain of custody to the point of sale or export, be accompanied by verifiable documentation attesting to their legal origin. CDS are now required by various regional fisheries management organisations including the IOTC for tunas and tuna-like species, and they are essential for addressing the unreported fishing dimension of IUU fishing. Bangladesh's absence of a functioning CDS for major export species including hilsa, shrimp, and tuna creates vulnerability to IUU fish entering the export supply chain and to the consequences of market access restrictions imposed by importing countries that require CDS compliance.

Third, the Act does not provide adequate mechanisms for international cooperation in IUU fishing enforcement. Effective control of foreign IUU fishing in Bangladesh's EEZ requires information sharing with the flag states of vessels suspected of IUU fishing, joint patrol and surveillance arrangements with neighbouring states, and participation in regional blacklisting systems for IUU vessels. The Act provides general authority for the government to enter into cooperative arrangements, but it does not establish specific bilateral or regional cooperation frameworks or provide the institutional basis for the sustained engagement with regional fisheries bodies required for effective IUU enforcement cooperation.

Fourth, the court system through which IUU fishing offences are prosecuted is not specifically adapted to the demands of fisheries law enforcement. The normal criminal court process in Bangladesh is ill-suited to the rapid processing of fisheries violation cases, which involve perishable evidence (the illegally caught fish), time-sensitive considerations regarding vessel detention, and technical expertise requirements that general criminal courts lack. Several advanced fisheries jurisdictions have established specialised fisheries courts or adjudication procedures designed to provide rapid, technically informed, and practically effective resolution of fisheries violation cases. Bangladesh's 2020 Act does not address this institutional gap.

5.4 Enforcement Capacity and the Operational Reality

The effectiveness of any fisheries enforcement framework depends not only on the quality of the legislation but on the practical enforcement capacity of the state. This observation is particularly important in the Bangladesh context, where there is a significant gap between the provisions of the 2020 Act on paper and the operational reality of fisheries enforcement in Bangladesh's maritime zones.

The Bangladesh Coast Guard, established by the Bangladesh Coast Guard Act of 2010, is the primary maritime law enforcement agency responsible for patrol and enforcement in the territorial sea and EEZ. The Coast Guard has made significant investments in recent years in patrol vessels, radar systems, and personnel training, and it has increased the frequency and reach of its patrol operations in Bangladesh's maritime zones. The Bangladesh Navy also contributes to fisheries enforcement, particularly in the outer EEZ, through its regular patrol operations.

Despite these improvements, the enforcement capacity of the Coast Guard and Navy in relation to fisheries violations remains significantly below what would be required for effective coverage of Bangladesh's entire maritime zone. The ratio of patrol vessel capacity to the area of the EEZ, the number of licensed and unlicensed vessels operating in Bangladesh's maritime zones, and the frequency of IUU fishing incidents is such that the probability of detection of any individual IUU fishing event is relatively low. This low probability of detection substantially reduces the deterrent effect of even well-designed penalty provisions, since rational actors will discount heavy penalties by the low probability of being caught.

The development of a comprehensive, risk-based fisheries monitoring, control, and surveillance (MCS) system is the most important single operational improvement required for effective fisheries enforcement in Bangladesh. Such a system would integrate VMS data from licensed vessels, aerial surveillance from aircraft or unmanned aerial systems, radar monitoring of vessel traffic, port inspection and catch reporting systems, and cooperation with neighbouring states' monitoring systems into a coordinated operational framework. The 2020 Act provides a legal basis for several elements of such a system but does not require its comprehensive development, and this is a significant gap between legislative aspiration and operational effectiveness.

CHAPTER 6: HILSA FISHERIES AND THE LAW - GOVERNANCE OF BANGLADESH'S NATIONAL FISH

6.1 The Hilsa: Biology, Ecology, and Cultural Significance

The hilsa shad, known in Bangladesh as ilish (Tenualosa ilisha), is the most important single species in Bangladesh's marine and riverine fisheries, occupying a place in Bangladeshi culture, cuisine, and national identity that is difficult to overstate. The hilsa is the national fish of Bangladesh, its image appears on the official coat of arms of several Bangladeshi cities, it is central to the cuisine and festive traditions of Bengali culture, and its migration from the Bay of Bengal into the rivers and estuaries of the Bangladesh delta during the monsoon season is one of the great natural events that shapes the rhythm of life in coastal and riverine Bangladesh.

From a biological perspective, the hilsa is an anadromous species, hatching in freshwater rivers, migrating to the sea to grow and mature, and returning to the rivers to spawn. The principal spawning grounds are in the freshwater rivers of Bangladesh and the adjacent Indian state of West Bengal, including the Padma, the Meghna, and the Jamuna, and the species spends part of its life cycle in the estuaries and coastal waters of the Bay of Bengal. The migratory character of the species means that it is a shared resource between Bangladesh and India, with significant portions of the stock spending parts of their life cycles in the waters of both countries. This shared stock character is a fundamental dimension of hilsa governance that the legal framework must address.

Bangladesh accounted for approximately sixty-five to seventy per cent of global hilsa production in recent years, making it the world's largest producer of this species. In 2023-24, Bangladesh's total hilsa production exceeded 600,000 tonnes, a figure that the government attributes in part to

the conservation measures introduced over the previous two decades. Bangladesh ranked first in world hilsa production according to the FAO State of World Fisheries and Aquaculture report for 2024. The economic value of the hilsa fishery to Bangladesh is estimated in the hundreds of millions of US dollars annually, including both domestic consumption and export earnings.

The hilsa fishery employs a very large number of fishers, fish traders, and people engaged in post-harvest processing, especially women who dominate the salting, smoking, and drying operations that prepare hilsa for the domestic market. The livelihoods of millions of Bangladeshis are directly or indirectly dependent on the hilsa fishery, making the governance of this single species one of the most socially significant dimensions of Bangladesh's entire fisheries management framework.

6.2 The Legal History of Hilsa Conservation: From Neglect to the Maa Ilish Programme

The history of the legal governance of Bangladesh's hilsa fishery is a story of belated recognition of a crisis that was building for decades, followed by innovative conservation action that has produced measurable ecological results. The hilsa fishery was, for most of Bangladesh's independent history, essentially unregulated in any ecologically meaningful sense. The 1983 Ordinance provided for the establishment of closed seasons and fishing bans in specific areas, and some regulations were issued under the Ordinance addressing hilsa fishing, but the regulatory framework was poorly enforced, inadequately funded, and scientifically uninformed.

The hilsa stock began showing signs of serious depletion in the 1990s and early 2000s. Catch per unit effort declined significantly, the average size of harvested hilsa decreased as fishing pressure pushed the fishery toward smaller and younger fish, and hilsa biomass in the rivers during the spawning season declined markedly. The causes of this decline were multiple: overfishing of adult hilsa in both the marine and riverine habitats, large-scale capture of juvenile hilsa (jatka) by small-mesh nets in the estuaries and coastal waters, habitat degradation in the spawning rivers due to siltation, pollution, and water diversion, and climate change effects on the timing and character of the monsoon season.

In response to the emerging crisis, the Bangladeshi government introduced a series of conservation measures in the early 2000s that collectively constituted a significant policy innovation. The jatka ban, introduced under the Marine Fisheries Rules made under the 1983 Ordinance, prohibits the capture of jatka (juvenile hilsa) below a specified minimum size, typically set at around twenty-three centimetres, during the period from November to June, which is the period when juvenile hilsa are most concentrated in the estuarine and coastal areas. The ban covers specific areas of the Bay of Bengal coast and the major estuaries, and it is enforced by the Coast Guard, the Navy, and the Fisheries Department.

The Maa Ilish (Mother Hilsa) programme, introduced in 2011, extended the conservation framework by establishing a closed season during the main hilsa spawning period, typically in October during the full moon period when hilsa aggregate in large numbers for breeding. During this period, all hilsa fishing is prohibited in designated sanctuary areas in the rivers and estuaries, covering the most important spawning grounds. The programme has been expanded over the years to cover more areas and longer periods, and it has been accompanied by safety net

programmes to provide alternative income and food support to fishing families during the closure period.

The scientific evidence suggests that these conservation measures have had significant positive effects on hilsa stock status. Hilsa production has recovered substantially from its low point in the late 1990s and early 2000s, and surveys of stock abundance indicate that breeding population size has increased following the introduction of the conservation measures. The R.V. Dr. Fridtjof Nansen ecosystem survey of Bangladesh's marine waters, completed in 2025, has provided updated data on fish stocks and ecosystem conditions that will inform ongoing hilsa management, and the government has committed to using these survey findings to guide policy reform.

6.3 The 2020 Act and Hilsa Governance

The Marine Fisheries Act 2020 provides the legal framework for the continuation and development of the hilsa conservation measures that have been implemented over the previous two decades. The Act authorises the establishment of fisheries sanctuaries, the designation of closed seasons and areas, and the prohibition of specific fishing gear that is particularly damaging to juvenile hilsa. It provides for penalties for the capture of jatka below the minimum size limit and for fishing during the spawning season closure.

However, the 2020 Act does not establish a specific legal framework for the governance of hilsa as a shared transboundary stock with India. The hilsa migrates between the waters of Bangladesh and India, and the effective conservation of the stock requires coordinated management between the two countries. The absence of a bilateral fisheries agreement with India on hilsa governance is a significant gap in the legal framework, and the 2020 Act's silence on this point perpetuates rather than addresses this gap.

The 2020 Act also does not address the ecological dimensions of hilsa conservation that go beyond fishing pressure. The degradation of hilsa spawning habitats in the Padma and other major rivers, caused by siltation, water extraction for irrigation, pollution from industrial and agricultural sources, and reduced freshwater flows due to upstream dams in India, is as serious a threat to the long-term sustainability of the hilsa fishery as overfishing. These habitat and water quality issues require legal action beyond the scope of the Marine Fisheries Act, through the water law, environmental law, and international treaty frameworks, but the Marine Fisheries Act does not provide for the coordination between fisheries management and these other legal frameworks that is necessary for effective hilsa governance.

The jurisprudential question of the nature of the hilsa as a shared resource between Bangladesh and India raises interesting issues in the theory of international fisheries law. UNCLOS Article 63 requires states whose EEZs contain shared stocks to seek agreement on conservation measures, but it does not specify the content of such agreements or the process by which they must be reached. The Seabed Disputes Chamber's Advisory Opinion of 2011 on the duties of states sponsoring activities in the deep seabed provides some guidance on the nature of due diligence obligations in transboundary resource management, and the 2015 ITLOS SRFC Advisory Opinion's treatment of shared and transboundary stocks provides further guidance, but

the specific legal framework for Bangladesh-India cooperation on hilsa governance remains to be developed.

6.4 The Jatka Ban: Legal and Philosophical Analysis

The jatka ban on the capture of juvenile hilsa below the minimum size limit is, from a philosophical perspective, a classic example of the application of intergenerational justice to fisheries governance. By prohibiting the capture of juvenile fish that have not yet reached reproductive maturity, the ban protects the reproductive potential of the stock and ensures that the present generation of fishers does not consume the resource that would otherwise produce the next generation of harvestable fish. It is, in the most literal sense, an act of conservation in the interests of future harvesters.

The jatka ban is, however, also a classic example of the distributional tensions in fisheries governance. The fishers who harvest jatka are, in most cases, among the poorest members of Bangladesh's coastal fishing communities: artisanal fishers using small boats and fine-mesh nets in the estuaries and coastal shallows, who capture jatka as a significant part of their subsistence catch and livelihoods. The ban imposes direct economic costs on these fishers, denying them catch that they would otherwise take. The conservation benefits of the ban accrue diffusely across the fishing community and across time, with future generations of fishers benefiting from larger adult hilsa stocks as a result of the juvenile protection.

This distributional asymmetry raises a fundamental question of social justice: is it equitable to impose the costs of conservation on the poorest and most marginalised fishers while distributing the benefits broadly? The standard economic argument is that the aggregate benefits of conservation exceed the aggregate costs, and that the ban is therefore Pareto-improving in the long run even if some individuals are made worse off in the short run. But this aggregate welfare argument does not address the justice of imposing short-term hardship on the poor for the long-term benefit of all, and it requires a system of compensation that the 2020 Act does not adequately provide.

The jatka ban's safety net provisions, which provide alternative income support to affected fishing families during the closure period, are a partial response to this distributional concern. But the coverage, level, and reliability of these safety net programmes have been criticised as inadequate by fishing community organisations and development NGOs working with coastal fishing communities. A fisheries governance framework that genuinely respects the rights and wellbeing of small-scale fishing communities must provide meaningful, reliable, and adequately funded compensation for the costs imposed by conservation measures, not merely token safety net programmes that fail to make affected communities whole.

CHAPTER 7: ECOSYSTEM-BASED FISHERIES MANAGEMENT IN THE BAY OF BENGAL - SCIENCE, LAW, AND GOVERNANCE

7.1 The Bay of Bengal Large Marine Ecosystem and its Governance

The Bay of Bengal Large Marine Ecosystem (BOBLME) is one of the world's sixty-six recognised Large Marine Ecosystems, a concept developed by the US National Oceanic and Atmospheric Administration and adopted by the Global Environment Facility as the primary framework for ecosystem-based ocean governance. The BOBLME covers approximately 2.17 million square kilometres and encompasses the coastal and marine waters of Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka, and Thailand. It supports fisheries that are among the most productive and most heavily exploited in the world, and it provides ecosystem services of enormous value including carbon sequestration, nutrient cycling, coastal protection, and biodiversity maintenance.

The BOBLME Project, funded by the Global Environment Facility through the United Nations Development Programme and the FAO, operated from 2009 to 2017 and generated a comprehensive stock of scientific knowledge about the Bay of Bengal ecosystem, its fisheries, its environmental conditions, and the governance challenges facing its management. The Project produced a Strategic Action Programme (SAP) that identified priority actions for the conservation and sustainable management of the BOBLME, including the control of IUU fishing, the improvement of fisheries data collection, the strengthening of legal and institutional frameworks, and the development of regional cooperation mechanisms.

The BOBLME Project's legacy provides a scientific and institutional foundation for the development of ecosystem-based fisheries management in Bangladesh's marine waters that the 2020 Marine Fisheries Act does not adequately build upon. The Act's general references to ecosystem effects of fishing are not integrated with the specific scientific findings of the BOBLME Project, do not reference the BOBLME Strategic Action Programme, and do not establish mechanisms for Bangladesh's participation in the follow-on governance structures that have developed since the BOBLME Project concluded.

A legally sophisticated approach to fisheries governance in the Bay of Bengal would use the BOBLME ecological framework as the basis for defining the ecosystem within which Bangladesh's fisheries management decisions are embedded, incorporating BOBLME scientific data into stock assessments and fisheries management plans, and using BOBLME governance structures as the platform for regional cooperation on fisheries management. The 2020 Act's failure to make this connection between the national legal framework and the regional ecosystem governance framework is a missed opportunity of considerable significance.

7.2 Climate Change and the Ecosystem Dynamics of Bay of Bengal Fisheries

The effects of climate change on the Bay of Bengal ecosystem are now well documented by the scientific literature and were significantly advanced by the R.V. Dr. Fridtjof Nansen ecosystem survey of Bangladesh's marine waters conducted in 2025, which provided updated data on fish stocks, oceanographic conditions, and ecosystem dynamics. The survey findings, which are guiding ongoing policy reform and long-term planning according to Bangladesh's IOTC National Report for 2025, represent a significant advance in Bangladesh's evidence base for fisheries management and a strong argument for the development of a more scientifically grounded and climate-responsive legal framework.

The principal climate change effects on Bay of Bengal fisheries include sea surface temperature rise, which alters the distribution and productivity of fish species and affects the timing and intensity of monsoon-driven upwelling systems that support the Bay's productivity; ocean acidification, which threatens shellfish, coral reefs, and the base of the marine food web; changes in freshwater discharge from the major rivers due to altered precipitation patterns and glacier melt in the Himalayas, which affect the salinity and nutrient regimes of the coastal and estuarine waters where hilsa and other diadromous species reproduce; sea-level rise, which inundates coastal mangrove nursery habitats and alters the geography of the estuarine zone; and increased frequency and intensity of tropical cyclones, which cause direct mortality of fish, destruction of fishing infrastructure, and disruption of fishing communities.

These climate change effects require that the fisheries governance framework be explicitly designed to be adaptive to changing ecological conditions, rather than based on static reference points and fixed management targets that may become inappropriate as the ecosystem changes. The 2020 Marine Fisheries Act does not contain provisions for climate-adaptive management, does not require the integration of climate change scenarios into stock assessments and fisheries management plans, and does not reference the obligations established by the 2024 ITLOS Advisory Opinion on climate change in the marine context.

The connection between climate change and fisheries governance in Bangladesh has a specific legal dimension that arises from the 2024 ITLOS Advisory Opinion. The Opinion confirmed that the effects of climate change on the marine environment, including the effects on living marine resources, constitute marine pollution within the meaning of UNCLOS. This means that the depletion and disruption of Bangladesh's fisheries resources caused by climate change is, in the legal sense, a form of marine pollution inflicted on Bangladesh by the major greenhouse gas emitting states. The 2020 Marine Fisheries Act does not reference this legal framework, and the connection between Bangladesh's fisheries governance obligations and its rights under international climate law deserves explicit legislative recognition.

7.3 Ecosystem Services, Marine Biodiversity, and the Governance of Non-Fisheries Values

The EBFM approach requires recognition that the marine ecosystem provides values beyond the fish it produces for commercial harvest. Ecosystem services including coastal protection by mangroves and seagrass beds, carbon sequestration by blue carbon habitats, nutrient cycling that supports fisheries productivity, biodiversity maintenance supporting pharmaceutical and biotechnology research potential, and cultural and recreational values all constitute components of the total value of the Bay of Bengal ecosystem that must be considered in governance decisions.

The 2020 Marine Fisheries Act is, by design, primarily focused on the fisheries dimensions of marine resource governance and does not comprehensively address the broader ecosystem services dimension. This is understandable given the scope of the Act, but it creates a governance gap when fisheries management decisions have significant implications for non-fisheries ecosystem services. The interaction between the Marine Fisheries Act and other legislation governing the marine environment, including the Wildlife (Conservation and Security) Act 2012, the Bangladesh Environment Conservation Act 1995, the Forest Act

governing the Sundarbans, and any future Marine Spatial Planning legislation, requires explicit coordination mechanisms that the current legislative framework does not provide.

The Sundarbans mangrove ecosystem is a particularly important case for the analysis of the intersection between fisheries law and broader marine ecosystem governance. The Sundarbans is both the most important nursery habitat for juvenile hilsa and other commercially important fish species and one of the world's most significant natural carbon stores and biodiversity hotspots. The governance of fishing in the Sundarbans area involves a complex intersection of the Marine Fisheries Act, the Forest Act, the Wildlife Act, the Protection of Important Ecological Areas Order, and the provisions of several international environmental conventions to which Bangladesh is party. The 2020 Marine Fisheries Act does not specifically address the Sundarbans governance framework, and this is a significant omission given the ecological and economic importance of this ecosystem to Bangladesh's fisheries.

CHAPTER 8: TRANSBOUNDARY FISHERIES AND REGIONAL COOPERATION - LEGAL FRAMEWORKS AND DIPLOMATIC CHALLENGES

8.1 Shared Stocks in the Bay of Bengal: A Legal Analysis

The governance of transboundary fish stocks, stocks that occur in the EEZs of two or more adjacent or opposite states or in both the EEZ and the adjacent high seas, is one of the most complex and practically difficult areas of international fisheries law. UNCLOS Articles 63 and 64 establish the legal framework for the governance of straddling and highly migratory stocks respectively, requiring states to cooperate in their conservation and management, but the content and operationalisation of this cooperation obligation is left largely to the states concerned.

In the Bay of Bengal context, Bangladesh has several categories of shared stocks that require cooperative management with neighbouring states. The hilsa, discussed in detail in the previous chapter, is the most economically and culturally important shared stock, shared primarily with India. Indian mackerel (Rastrelliger kanagurta), which occurs throughout the Bay of Bengal and is an important component of the artisanal catch in all littoral states, is another important shared pelagic species. Neritic tunas, including kawakawa, frigate tuna, and bullet tuna, are highly migratory and occur throughout the Bay of Bengal, requiring management coordination through the Indian Ocean Tuna Commission. Demersal species of the inner Bay, including various croakers, pomfrets, snappers, and lizardfish, have distributions that extend across the maritime zones of Bangladesh, India, and Myanmar, requiring at minimum an exchange of scientific information and ideally coordinated management approaches.

The legal framework for managing these shared stocks is inadequate in several important respects. The 2020 Marine Fisheries Act does not explicitly reference the duty to cooperate with other states in managing shared and transboundary stocks. There are no bilateral fisheries agreements between Bangladesh and India, or between Bangladesh and Myanmar, that provide a framework for the cooperative management of shared stocks. The regional fisheries bodies in the Bay of Bengal, including the IOTC, the APFIC, and the BOBP-IGO, provide partial frameworks

for some aspects of regional fisheries cooperation but do not provide the comprehensive bilateral and subregional cooperation framework that the management of shared stocks requires.

The failure to develop adequate legal frameworks for transboundary fisheries management in the Bay of Bengal has concrete ecological consequences. The most dramatic example is the hilsa, where the absence of a Bangladesh-India agreement on coordinated management means that conservation measures implemented by Bangladesh can be partially offset by harvesting of the shared stock in Indian waters, particularly in the coastal waters of West Bengal. The effectiveness of Bangladesh's jatka ban and Maa Ilish programme depends in part on the Indian government's willingness to implement comparable measures in its adjacent waters, but without a bilateral agreement there is no legal mechanism for ensuring this coordination.

The political and diplomatic context for developing bilateral fisheries cooperation with India is complex but not unfavorable. The resolution of the maritime boundary dispute in 2014, while contentious, demonstrated that Bangladesh and India can reach legally binding agreements on sensitive maritime issues through the international legal process. The BIMSTEC framework, of which both Bangladesh and India are members, provides a multilateral platform for fisheries cooperation discussions. And both countries have strong economic interests in the sustainable management of shared fish stocks, which provides a foundation of shared interest on which cooperative arrangements could be built.

8.2 The Indian Ocean Tuna Commission and Bangladesh's Obligations

Bangladesh became a member of the Indian Ocean Tuna Commission (IOTC) and is subject to the binding Conservation and Management Measures (CMMs) adopted by the Commission for the management of tuna and tuna-like species in the Indian Ocean. These CMMs include measures on total allowable catch for specific species, gear restrictions, vessel monitoring requirements, catch documentation schemes, reporting obligations, and compliance monitoring procedures.

Bangladesh's compliance with IOTC CMMs has been partial and has been the subject of critical attention at IOTC sessions. Bangladesh's IOTC National Report for 2025 acknowledges the challenges of compliance with VMS requirements, catch reporting obligations, and other monitoring measures, and it notes that Bangladesh is in the process of strengthening its compliance framework. The report also acknowledges the important role of the R.V. Dr. Fridtjof Nansen survey in improving the scientific basis for Bangladesh's IOTC reporting.

The legal relationship between IOTC CMMs and Bangladesh's domestic fisheries legislation is complex. IOTC CMMs are binding on member states and require implementation in domestic law and practice. The 2020 Marine Fisheries Act provides a general legal basis for the implementation of international fisheries agreements, authorising the Director of Fisheries to issue regulations giving effect to the requirements of international instruments to which Bangladesh is party. However, the specific implementation of IOTC CMMs in domestic regulations is incomplete, and there are gaps between the specific requirements of individual CMMs and the provisions of Bangladesh's domestic fisheries rules.

The non-compliance of vessels flying the Bangladesh flag with IOTC CMMs when operating on the high seas is a flag state responsibility issue of the kind addressed in the 2015 ITLOS SRFC Advisory Opinion. Bangladesh, as the flag state of vessels operating in the IOTC area, has obligations under both UNCLOS and the IOTC Agreement to ensure that its vessels comply with applicable CMMs. The 2020 Marine Fisheries Act does not specifically address the flag state responsibility dimension of compliance with IOTC measures, and this is a gap that requires legislative attention.

8.3 The BOBP-IGO and Subregional Fisheries Cooperation

The Bay of Bengal Programme Intergovernmental Organisation (BOBP-IGO), headquartered in Chennai, India, is the principal subregional body for fisheries cooperation in the northern Bay of Bengal. Its members include Bangladesh, India, Maldives, Myanmar, and Sri Lanka. The BOBP-IGO focuses primarily on the development of small-scale fisheries, including the promotion of best practices in fishing technology, post-harvest handling, and fisheries data collection. It has been an important vehicle for technical cooperation and information exchange among the Bay of Bengal states, though its mandate is advisory rather than regulatory and it lacks the authority to adopt binding fisheries management measures.

The BOBP-IGO's advisory role means that it complements rather than duplicates the work of the IOTC, whose mandate covers the management of tunas and tuna-like species throughout the Indian Ocean. Together, these two regional bodies provide a framework for cooperation on the principal governance challenges of Bay of Bengal fisheries, but they do not between them provide a comprehensive framework for the management of all shared and straddling stocks in the Bay. There is a significant governance gap for the management of demersal and coastal pelagic species shared among the BIMSTEC states, which are not covered by any binding regional management agreement.

The development of a more comprehensive regional fisheries management framework for the Bay of Bengal, potentially through a new subregional agreement under the BIMSTEC framework or through the expansion of the mandate of the BOBP-IGO to include management as well as advisory functions, is a long-term institutional objective that Bangladesh should champion in its regional diplomacy. The legal architecture for such a framework would need to be carefully designed to respect the sovereign rights of each coastal state in its own EEZ while establishing the cooperative management mechanisms needed for the effective governance of shared and straddling stocks.

CHAPTER 9: SMALL-SCALE FISHERIES, HUMAN RIGHTS, AND SOCIAL JUSTICE IN THE 2020 ACT

9.1 The Structure of Bangladesh's Marine Fishing Sector

Bangladesh's marine fishing sector is characterised by a strongly dualistic structure, with a large artisanal and small-scale sector coexisting with a smaller but economically significant industrial

trawl sector. Understanding this structure is essential to evaluating the social justice dimensions of the 2020 Marine Fisheries Act.

The artisanal or small-scale sector, which contributes approximately eighty-two per cent of Bangladesh's marine capture production by volume, comprises fishing operations conducted from small motorised boats typically of less than fifteen net tonnes capacity, using a wide range of traditional and semi-traditional fishing gear including gill nets, cast nets, seine nets, and long lines. The fishers in this sector are predominantly from coastal fishing communities that have practised marine fishing for generations, and many of them operate from traditional fishing villages on the coast or on offshore islands such as Sandwip, Hatiya, and Kutubdia. This sector directly employs approximately one and a half million fishers and supports the livelihoods of many more through related activities in processing, trade, and services.

The industrial trawl sector, which contributes approximately eighteen per cent of marine production by volume but a higher proportion by value due to its concentration on high-value species including shrimp and demersal fish for export, comprises larger mechanised trawlers of fifty to several hundred tonnes capacity, typically owned by companies rather than individual fishing households. This sector operates primarily in the offshore and deep-sea waters of Bangladesh's EEZ and is the principal harvest sector for commercially exported species. The industrial sector has received significant government support over the years, including subsidised fuel, preferential licensing terms, and public investment in fishing port infrastructure.

The relationship between these two sectors is characterised by tensions and inequities that the legal framework has historically managed poorly. The industrial trawl sector operates in waters that overlap with the traditional fishing grounds of small-scale fishing communities, and there have been numerous conflicts between trawlers and artisanal fishers over access to fishing grounds, damage to artisanal gear by trawlers, and the overfishing of stocks upon which both sectors depend. The legal framework has not historically provided adequate mechanisms for managing these conflicts or for ensuring that the interests of small-scale fishing communities are given appropriate weight relative to those of the industrial sector.

9.2 The 2020 Act and Small-Scale Fishing Communities: A Human Rights Assessment

The FAO Voluntary Guidelines for Small-Scale Fisheries, adopted in 2015, call for a human rights-based approach to small-scale fisheries governance, requiring states to recognise and protect the rights of small-scale fishing communities to access and use marine resources, to participate meaningfully in governance decisions affecting their livelihoods, and to receive social protection against the risks associated with fishing as an inherently hazardous occupation. Applying this human rights framework to the 2020 Marine Fisheries Act reveals significant gaps.

The 2020 Act provides for the establishment of a co-management framework that gives fishing communities a role in fisheries governance through advisory and consultation mechanisms. The National Marine Fisheries Management Council, established under the Act, includes representation from fishing communities alongside government officials, industry representatives, and scientific experts. The Act also provides for the development of fisheries

management plans through consultative processes that are to include fishing community representatives.

These co-management provisions are potentially significant, but their practical effectiveness depends on the quality and inclusiveness of the representation of small-scale fishing communities in the governance process, the substantive influence that community representatives can exercise in decision-making, and the resources available to community organisations to participate effectively in governance processes. There are grounds for concern on all three dimensions. Small-scale fishing communities are often poorly organised compared to industrial fishing interests, their representatives may lack the technical knowledge and administrative capacity to engage effectively in complex fisheries management discussions, and there are no provisions in the Act for the capacity building of fishing community organisations to enable effective participation.

The Act does not contain specific provisions recognising the customary and historical rights of traditional fishing communities to access their traditional fishing grounds, a recognition that is called for in the FAO Voluntary Guidelines and that is considered best practice in modern fisheries governance frameworks. In the absence of such recognition, small-scale fishing communities are vulnerable to being excluded from areas where they have historically fished if those areas are allocated to other uses, including industrial fishing, aquaculture development, or marine protected areas, without adequate protection of their rights.

The absence of specific gender mainstreaming provisions in the 2020 Act is a significant gap from a human rights and social justice perspective. Women are deeply involved in Bangladesh's marine fisheries sector, particularly in post-harvest processing, but they are largely invisible in the formal governance framework. The Act does not require gender-disaggregated data collection, does not mandate gender representation in governance bodies, and does not address the specific needs and rights of women fisheries workers. This represents a failure to engage with the gendered dimensions of fisheries governance that the FAO Voluntary Guidelines and the emerging international literature on gender and fisheries governance identify as essential to equitable and effective management.

9.3 The Social Safety Net Provisions and their Adequacy

The 2020 Act provides for the establishment of safety net programmes to support fishing communities during mandated closed seasons, particularly the hilsa spawning season closure and the jatka ban period. These provisions recognise the economic hardship that conservation measures impose on fishing communities and attempt to provide some compensation.

However, the safety net provisions of the Act are criticised on several grounds. First, the coverage of safety net programmes has historically been incomplete, failing to reach all affected fishers, particularly those in the most remote and marginalised coastal communities. Second, the level of support provided through safety net programmes has not fully compensated affected fishing families for their income loss during closure periods, leaving many households in significant economic hardship. Third, the administrative procedures for accessing safety net

benefits have been complex and subject to corruption, with reports of benefits being diverted from the intended beneficiaries or failing to reach them in a timely manner.

Fourth, and most fundamentally, the safety net approach treats the costs imposed on fishing communities by conservation measures as emergency hardship to be addressed through charity rather than as legitimate claims to compensation that must be adequately addressed as a matter of legal right. A human rights-based approach to fisheries governance would reconceptualise the safety net as a compensation scheme that is legally required to make whole the communities that bear the costs of conservation for the collective benefit, and that must be funded at a level adequate to this purpose. The 2020 Act does not adopt this reconceptualised framework.

9.4 Access Rights, Licensing, and the Political Economy of Fishing

The system of fishing rights and licences established by the 2020 Marine Fisheries Act raises important questions about the political economy of fisheries governance and the distribution of access to marine resources. The Act provides for the licensing of fishing vessels above a specified size, with different licence categories for different vessel types and fishing methods. The licensing system is designed to control fishing effort by limiting the number of vessels authorised to operate in Bangladesh's marine fisheries waters.

The allocation of fishing licences involves distributional choices with significant social and economic consequences. A system that allocates licences based on economic criteria, such as the payment of market-rate licence fees, would tend to favour larger and better-capitalised operators at the expense of small-scale fishing households that cannot afford market-rate fees. A system that allocates licences based on historical rights, recognising the existing claims of fishing communities that have traditionally fished particular areas, would better protect the interests of small-scale fishing communities but might be difficult to reconcile with the need to reduce overall fishing effort to sustainable levels.

The 2020 Act does not specify clearly the criteria for licence allocation, leaving this to administrative discretion, which creates both a governance vulnerability and a potential for inequity. The risk that the licensing system will be used to transfer access rights from small-scale fishing communities to industrial operators, through the progressive withdrawal of licences from artisanal fishers and the granting of new licences to commercial companies, is real and has been documented in the fisheries governance literature across multiple developing countries. The legal framework must contain explicit protections against this outcome, including requirements that any changes to the licence allocation system must be preceded by consultations with affected fishing communities and must include adequate safeguards for their rights and livelihoods.

CHAPTER 10: MARINE PROTECTED AREAS AND FISHERIES CLOSURE SYSTEMS IN BANGLADESHI LAW

10.1 The Legal Status of Marine Protected Areas under the 2020 Act

The designation of Marine Protected Areas (MPAs) and fisheries closures as tools of marine resource governance has become one of the most important trends in international fisheries law and ocean governance over the past three decades. The adoption by the UN General Assembly of the Global Biodiversity Framework in December 2022, which includes the target of protecting at least thirty per cent of the world's land and ocean areas by 2030 (the 30x30 target), has given renewed impetus to the expansion of MPA networks globally and has created new international expectations for coastal states' marine area protection commitments.

Bangladesh's current MPA coverage is, by any measure, extremely limited. The Sundarbans Reserved Forest, which includes the coastal mangrove areas of southwest Bangladesh, is a UNESCO World Heritage Site and a designated Ramsar wetland, providing some degree of legal protection for this ecologically critical area. The Swatch-of-No-Ground (Bhola Canyon), the large submarine canyon in the Bay of Bengal off the coast of Bangladesh, has been proposed as an MPA but has not been formally designated. Several coral habitats around St. Martin's Island have been proposed for protection under the Wildlife Act, and some measures restricting fishing around the island have been implemented, but a formally designated MPA with a comprehensive management plan has not been established.

The 2020 Marine Fisheries Act provides a legal basis for the designation of MPAs within Bangladesh's Marine Fisheries Waters. The Act establishes a process for MPA designation that includes scientific assessment, public consultation, gazette notification, and the development of a management plan. This framework is broadly consistent with international best practice for MPA designation processes, though the specific requirements for scientific assessment, the scope of the consultation process, and the content requirements for management plans could be strengthened in the interests of legal clarity and governance effectiveness.

The 30x30 target of the Global Biodiversity Framework creates a specific international expectation for Bangladesh: by 2030, Bangladesh should designate and effectively manage marine protected areas covering at least thirty per cent of its maritime zones, approximately 35,000 square kilometres. Achieving this target from the current baseline of minimal MPA coverage will require a dramatic scaling up of MPA designation and management efforts, supported by adequate scientific assessment, community consultation, institutional capacity, and financial resources. The 2020 Marine Fisheries Act provides the general legal basis for this effort but does not contain the specific programme, targets, and implementation mechanisms needed to realise it.

10.2 The Sundarbans as a Marine Governance Challenge

The Sundarbans, the world's largest mangrove ecosystem, presents one of the most complex and legally interesting marine governance challenges in Bangladesh. It is simultaneously a UNESCO World Heritage Site requiring conservation of its natural and biological values, a critical nursery habitat for hilsa and other commercially important fish species, a Zone of coastal protection that shields millions of people from storm surges and sea-level rise, a livelihoods resource for hundreds of thousands of people including fishers, honey collectors, woodcutters, and other forest users, and a territory subject to the jurisdiction of multiple ministries and agencies

including the Forest Department, the Ministry of Environment, the Ministry of Fisheries, and the Ministry of Land.

The governance of fishing in the Sundarbans is subject to a particular set of regulations under the Forest Act and the Wildlife Act, distinct from the Marine Fisheries Act, though the Marine Fisheries Act applies to the marine and estuarine areas on the seaward side of the Sundarbans. The fragmentation of governance between multiple legal frameworks and institutions creates coordination challenges that are visible in the practical management of the Sundarbans coastal zone.

The Sundarbans are under significant and increasing threat from multiple sources, including the encroachment of human settlements and aquaculture ponds at the forest margins, the effects of upstream water diversion on the salinity balance that determines the species composition of the mangrove, pollution from industrial development in the coastal zone including the Rampal coal power plant located in proximity to the Sundarbans, sea-level rise and coastal erosion, and the increasing intensity of cyclones attributable to climate change. These threats to the Sundarbans ecosystem are simultaneously threats to the fisheries that the mangrove habitat supports, and the legal governance framework must recognise and address this connection.

The Swatch-of-No-Ground submarine canyon, located approximately 55 kilometres south of the Sundarbans in the Bay of Bengal, is one of the most ecologically significant marine features in Bangladesh's EEZ. The canyon is an important habitat for sperm whales, Irrawaddy dolphins, finless porpoises, whale sharks, and numerous other marine megafauna, and it is also a critical spawning and feeding ground for commercially important fish species. Despite its ecological importance and its recognised status as an Important Marine Mammal Area (IMMA) by the International Union for Conservation of Nature, the Swatch-of-No-Ground has not been formally designated as an MPA under Bangladeshi law, leaving its remarkable biodiversity without the protection of a formal legal framework. This omission should be among the highest priority targets for the MPA designation programme recommended in Chapter Thirteen.

10.3 Fisheries Closures, Their Jurisprudential Basis, and Enforcement Challenges

The various fisheries closures in Bangladesh's marine fisheries waters, including the hilsa spawning season closure, the jatka ban areas, and various gear-specific restrictions in inshore areas, represent an important component of the conservation framework under the 2020 Act. These closures are established through a combination of the Act's provisions and subsidiary regulations made under the Act's rule-making powers.

The jurisprudential basis for fisheries closures is relatively straightforward: the coastal state's sovereign rights over the living resources of the EEZ, as confirmed in UNCLOS Article 56, include the right to regulate and restrict access to those resources in the interests of conservation and sustainable management. The constraint is that such regulations must be based on the best available scientific evidence, must be consistent with the maximum sustainable yield and precautionary approach requirements of UNCLOS Articles 61 and 62, and must not discriminate against the vessels of other states with legitimate access rights in the EEZ.

The enforcement of fisheries closures in Bangladesh's EEZ raises both practical and legal challenges. The practical challenges include the enormous geographic scale of the areas subject to closure, the large number of fishing vessels and fishers whose compliance must be secured, and the limitations of Bangladesh's monitoring and enforcement capacity, discussed in detail in Chapter Five. The legal challenges include the standards for boarding and inspecting vessels suspected of violating closure regulations, the application of enforcement powers in areas adjacent to the territorial waters of India and Myanmar, and the treatment of foreign vessels found in violation of Bangladesh's closures.

The use of Community Fisheries Management Committees, which have been established in various coastal districts and which involve fishing communities in monitoring and reporting violations of fishing regulations, is an important innovation in Bangladesh's fisheries enforcement that goes some way toward addressing the capacity limitations of the formal enforcement system. These community-based monitoring arrangements are consistent with the co-management principles of the 2020 Act and with the FAO's guidance on participatory fisheries governance. However, their legal status, their mandate, and their relationship to the formal enforcement system are not fully specified in the Act, creating uncertainty about the admissibility of evidence gathered by community monitors in formal enforcement proceedings and about the liability of community monitors who perform enforcement functions.

CHAPTER 11: CLIMATE CHANGE, FISHERIES, AND THE EMERGING LEGAL FRAMEWORK

11.1 Climate Change Effects on Bangladesh's Marine Fisheries: The Legal Significance

Climate change is not, from the perspective of the law of the sea, a background fact about which fisheries law must eventually adapt. It is, as the 2024 ITLOS Advisory Opinion confirmed, a form of marine pollution that states have obligations under UNCLOS to prevent, reduce, and control, and its effects on marine living resources are effects of that pollution. This reframing of climate change as marine pollution has profound implications for fisheries governance law, because it means that the impacts of climate change on fish stocks, fisheries productivity, and fishing community livelihoods are legally cognisable harms attributable to the anthropogenic greenhouse gas emissions that constitute the pollution, not merely unfortunate natural events.

For Bangladesh's fisheries governance framework, this legal reframing creates both rights and obligations. As a rights matter, it provides a legal basis for Bangladesh to claim compensation from major emitting states for the harm that climate change is causing to its fisheries, including the disruption of hilsa spawning migrations due to changing freshwater flow regimes, the northward shift of fish distributions due to sea warming, the damage to coral reef and seagrass habitats due to acidification and thermal bleaching, and the loss of coastal mangrove nursery habitats due to sea-level rise. As an obligations matter, it requires Bangladesh to take all necessary measures, proportionate to its national circumstances, to prevent, reduce, and control marine pollution from its own greenhouse gas emissions, including through the integration of climate mitigation and adaptation considerations into its fisheries governance framework.

The climate change effects that are most directly relevant to Bangladesh's marine fisheries include the following. Sea surface temperature increase in the Bay of Bengal is already documented and is projected to continue; this warming affects the metabolic rates and distribution of fish species, alters the timing of spawning migrations, and may shift the optimal habitat for many species northward or to deeper waters beyond the range of Bangladesh's current fishing capacity. Changes in monsoon rainfall patterns and upstream water extraction are altering the freshwater-saltwater balance in the major estuaries where hilsa and other diadromous species reproduce, with potentially serious implications for reproductive success. Increased cyclone frequency and intensity is causing direct mortality of fish, destruction of fishing infrastructure and fishing gear, and displacement of fishing communities from traditional coastal habitats. Sea-level rise is inundating low-lying coastal habitats including mangroves and seagrass beds that serve as nursery areas for juvenile fish.

11.2 Climate-Adaptive Fisheries Management: Legal Requirements and Institutional Needs

The recognition that climate change will significantly alter the productivity, distribution, and ecology of Bangladesh's marine fisheries creates a requirement for climate-adaptive fisheries management, a governance approach that explicitly incorporates climate projections into stock assessments, management targets, and regulatory measures, and that includes mechanisms for rapid management adjustment as climate conditions change.

The legal framework for climate-adaptive fisheries management requires, at a minimum, the following elements that the 2020 Marine Fisheries Act does not currently provide. First, a requirement to incorporate climate change projections into stock assessments, using downscaled regional climate models to project changes in fish distribution and productivity under different emissions scenarios. Second, a requirement that fisheries management plans include specific provisions for management responses to climate-driven changes in stock status, including mechanisms for reducing total allowable catch when stocks decline due to climate impacts even if fishing mortality has not increased. Third, a requirement for regular review of management measures in light of observed climate changes, with a schedule for periodic reassessment of management targets and measures no longer than every five years. Fourth, provisions for the protection of climate refugia, areas that are projected to remain suitable for fish species even as surrounding areas become less hospitable due to climate change, which should receive heightened protection in the MPA and fisheries closure systems.

The institutional framework for climate-adaptive fisheries management requires the integration of climate science into the fisheries science infrastructure, including the capacity to model climate change impacts on marine ecosystems in the Bay of Bengal, to monitor oceanographic indicators of climate change, and to translate climate projections into fisheries management advice. The collaboration between the Bangladesh Oceanographic Research Institute, the Bangladesh Meteorological Department, the Bangladesh Fisheries Research Institute, and international climate science institutions needs to be formalised and adequately funded to provide the scientific basis for climate-adaptive management.

11.3 The BBNJ Agreement and Climate Connectivity

The Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, adopted in June 2023 and due to enter into force when sixty ratifications are received, has important implications for Bangladesh's fisheries governance framework, particularly in relation to climate change and the connectivity between Bangladesh's EEZ fisheries and the broader Indian Ocean ecosystem.

Many of the fish species that Bangladesh harvests in its EEZ undertake migrations that extend into areas beyond national jurisdiction, including the high seas of the Indian Ocean and, for highly migratory species, the EEZs of distant states. The BBNJ Agreement's provisions on Marine Protected Areas in areas beyond national jurisdiction and on environmental impact assessment for activities affecting areas beyond national jurisdiction are relevant to the management of the populations of these migratory species throughout their range.

Bangladesh's ratification of the BBNJ Agreement and its participation in the governance structures established under the Agreement should be priorities for Bangladesh's international maritime law engagement. The Agreement provides a framework for Bangladesh to participate in the governance of the broader Indian Ocean ecosystem, to benefit from the sharing of marine genetic resources from areas beyond national jurisdiction, and to ensure that activities in the high seas adjacent to Bangladesh's EEZ are assessed for their impacts on Bangladesh's fisheries resources.

CHAPTER 12: AQUACULTURE GOVERNANCE IN THE MARINE AND COASTAL ZONE

12.1 Marine Aquaculture and the EEZ: A Legal Framework Gap

Marine aquaculture, including the culture of fish, shrimp, molluscs, and algae in the marine and coastal waters of Bangladesh's EEZ, is an increasingly important dimension of the blue economy strategy and an activity that the legal framework must adequately govern. Bangladesh is already one of the world's largest producers of farmed shrimp, with an extensive coastal aquaculture industry in the mangrove belts and coastal ponds of the Satkhira, Khulna, and Bagerhat districts. The expansion of aquaculture into the marine environment, including the development of offshore cage culture and mariculture systems in the EEZ, is a policy objective that the government has articulated as part of the blue economy strategy.

The 2020 Marine Fisheries Act does not provide a comprehensive legal framework for marine aquaculture. The Act focuses primarily on the governance of capture fisheries and addresses aquaculture only incidentally, in the context of MPAs and environmental protection provisions. There is no specific chapter on marine aquaculture licensing, environmental impact assessment requirements for aquaculture operations, or the governance of the allocation of marine space for aquaculture development.

The governance of marine aquaculture requires specific legal provisions addressing several issues that are quite distinct from the governance of capture fisheries. These include the

allocation of seabed and water space for aquaculture facilities, which involves complex questions of property rights in the marine environment; the environmental impact assessment of aquaculture operations, which can have significant effects on surrounding ecosystems through nutrient enrichment, disease transmission, genetic pollution from farmed stock, and habitat modification; the regulation of aquaculture inputs including feed, veterinary medicines, and fertilisers; and the legal framework for aquaculture in relation to the rights of capture fishers in the same areas.

12.2 Shrimp Farming, Environmental Law, and the Rights of Coastal Communities

Bangladesh's extensive coastal shrimp farming industry, which has produced significant export earnings but has also been associated with serious environmental and social consequences, illustrates the governance challenges of marine and coastal aquaculture.

The conversion of mangrove forest and coastal wetland areas to shrimp ponds in the Khulna and Satkhira coastal districts has been one of the most significant environmental land use changes in Bangladesh's coastal zone over the past three decades. While the economic benefits of shrimp farming for the national economy and for individual farmers are real, the environmental costs have been substantial: loss of mangrove habitat that serves as fisheries nursery, coastal protection, and carbon sequestration; salinisation of agricultural land adjacent to shrimp ponds; displacement of traditional farmers and fishing communities from converted land; and groundwater depletion and pollution from shrimp pond effluents.

The legal framework governing coastal shrimp farming is fragmented across the Marine Fisheries Act, the Bangladesh Environment Conservation Act, the Forest Act, the Land Acquisition Act, and various administrative orders, without a single integrated coastal aquaculture governance regime that addresses all of these dimensions. The result is a system in which environmental and social harms associated with shrimp farming are inadequately controlled, the rights of affected communities are inadequately protected, and the long-term sustainability of the industry is undermined by the degradation of the ecosystem on which it depends.

A comprehensive maritime law reform must include the development of a Marine and Coastal Aquaculture Act, or the integration of comprehensive aquaculture governance provisions into the Marine Fisheries Act, that addresses the full range of governance challenges posed by marine and coastal aquaculture in Bangladesh. This legislation should be developed in close consultation with fishing communities, environmental organisations, and the aquaculture industry, and it should be based on a thorough assessment of the environmental and social impacts of existing aquaculture operations and the governance measures needed to address them.

CHAPTER 13: INSTITUTIONAL ARCHITECTURE FOR FISHERIES GOVERNANCE - ANALYSIS AND REFORM

13.1 The Current Institutional Framework

The governance of Bangladesh's marine fisheries involves multiple institutions at the national, local, and international levels, including the Ministry of Fisheries and Livestock, the Department of Fisheries, the Bangladesh Coast Guard, the Bangladesh Navy, the Bangladesh Fisheries Research Institute, the Bangladesh Oceanographic Research Institute, and various interministerial coordination bodies. At the international level, Bangladesh participates in the IOTC, the APFIC, the BOBP-IGO, and the BIMSTEC framework for maritime governance.

The Department of Fisheries is the primary administrative body responsible for fisheries governance under the 2020 Act. Its mandate includes the licensing of fishing vessels, the development and implementation of fisheries management plans, the establishment of fisheries management committees, the monitoring and enforcement of fishing regulations, the promotion of responsible fishing practices, and the collection and publication of fisheries statistics. The Department operates through a central headquarters in Dhaka and divisional and district offices in the coastal regions.

Several significant institutional weaknesses characterise the current fisheries governance architecture. The Department of Fisheries is significantly under-resourced relative to its mandate, with inadequate personnel, technology, and operational budgets for the scale of the governance task. It lacks dedicated marine research vessels adequate for systematic stock assessment in the full extent of Bangladesh's EEZ, though significant progress has been made through the R.V. Meen Sandhani programme and the R.V. Dr. Fridtjof Nansen ecosystem surveys. The concentration of regulatory authority in a single official, the Director of Fisheries, creates both an administrative bottleneck and a governance vulnerability, as noted in the commentary on the 1983 Ordinance framework.

The National Marine Fisheries Management Council established under the 2020 Act has the potential to provide a more inclusive and representative governance framework, bringing together government, industry, fishing communities, scientists, and environmental organisations in a structured advisory and decision-making body. However, the Council's actual effectiveness depends on the quality of its membership, the seriousness with which government treats its advice, and the resources available to support its operations. There are no provisions in the Act for the operational budget of the Council, for the capacity building of its non-government members, or for the public reporting of its proceedings and recommendations, which are essential elements of a genuinely effective and accountable governance body.

13.2 The Science-Policy Interface in Fisheries Governance

Effective fisheries governance requires a robust and well-institutionalised science-policy interface, a set of institutional arrangements through which the best available scientific information is systematically integrated into fisheries management decisions. The development and maintenance of this science-policy interface is one of the most important institutional challenges in fisheries governance, and it is one where Bangladesh's current framework is particularly weak.

The primary fisheries research institution is the Bangladesh Fisheries Research Institute, which conducts research on both freshwater and marine fisheries and operates several research stations

in the coastal zone. The Institute's marine research programme has been growing, and the data generated by the R.V. Meen Sandhani cruises and the ecosystem surveys by the R.V. Dr. Fridtjof Nansen provide increasingly important inputs to stock assessment and management planning. However, the Institute's capacity for rigorous, peer-reviewed stock assessment science of the kind required for modern fisheries management, including the development of full analytical stock assessment models for the major commercial species, is still limited.

The Science and Technology Advisory Committee established under the 2020 Act is intended to provide a formal institutional mechanism for connecting the scientific community to the fisheries management process. However, the Act's provisions regarding the Committee are not detailed enough to ensure its effective operation. There are no specific requirements for the scientific rigour of the assessments it considers, no requirement that its advice be documented and published, and no mechanism for ensuring that its advice actually influences management decisions. A reformed fisheries governance framework should establish a more robust science-policy interface, modelled on successful examples from other jurisdictions, including the independent scientific advisory process of the Marine Stewardship Council and the fisheries assessment processes of the IOTC Scientific Committee.

13.3 Towards a Bangladesh Marine Fisheries Authority

The fundamental institutional reform required to provide Bangladesh with a fisheries governance capacity adequate to the demands of the twenty-first century is the establishment of a dedicated, independent, and adequately resourced Bangladesh Marine Fisheries Authority (BMFA). This body, whose creation has been proposed in various forms in the academic literature and in policy discussions, would replace the current administrative arrangement in which marine fisheries governance is managed by a department within the Ministry of Fisheries and Livestock, and would provide the institutional focus, technical capacity, and operational independence required for effective management.

The proposed BMFA should be established by statute, with a mandate covering the full range of marine fisheries governance functions including stock assessment, fisheries management planning, licensing and quota administration, monitoring and enforcement, marine protected area management, international relations including participation in regional fisheries bodies, and research and development. It should be governed by an independent board with diverse membership including government officials, industry representatives, fishing community organisations, scientific experts, and environmental organisations, providing the accountability and legitimacy that a major regulatory authority requires.

The BMFA should be financed through a combination of government appropriation and self-generated revenue from licence fees, fisheries access charges, and resource levies, with a transparent budgeting process and independent audit. It should have the regulatory authority to issue binding management orders, to revoke licences for violations, to designate MPAs and fisheries closures, and to adopt emergency management measures when stock conditions require it. These regulatory powers should be subject to procedural safeguards including the right of affected parties to be heard before adverse decisions are taken, the right to appeal adverse

decisions to an independent tribunal, and the obligation to publish the reasoning for significant management decisions.

CHAPTER 14: TOWARDS A COMPREHENSIVE REFORM OF MARINE FISHERIES GOVERNANCE IN BANGLADESH - A LEGISLATIVE AND INSTITUTIONAL AGENDA

14.1 The Case for Comprehensive Legislative Reform

The analysis in the preceding chapters has demonstrated that while the Marine Fisheries Act 2020 represents a significant improvement over the 1983 Ordinance, it falls substantially short of the legal framework required for the sustainable, equitable, and effective governance of Bangladesh's marine fisheries in the twenty-first century. The gaps and deficiencies identified in this commentary cannot be adequately addressed through incremental amendments to the existing Act; they require a comprehensive rethinking of the legislative framework, its conceptual architecture, its institutional embodiment, and its social justice foundations.

The case for comprehensive legislative reform is grounded in five principal arguments. First, Bangladesh's international legal obligations under UNCLOS, the UNFSA, the IOTC measures, the FAO Code of Conduct, and the emerging climate obligations established by the 2024 ITLOS Advisory Opinion collectively demand a domestic legal framework that is substantially more comprehensive, scientifically grounded, and institutionally capable than the 2020 Act provides. The gap between international obligation and domestic implementation is significant and growing as the international framework evolves.

Second, the ecological crisis in Bangladesh's marine fisheries, documented through decades of declining catch per unit effort, declining average fish size, and species-specific depletion trends, requires urgent governance action based on sound science and effective enforcement. The 2020 Act's lack of operational provisions for precautionary management, stock assessment requirements, and adaptive management mechanisms means that this ecological crisis will not be effectively addressed through the existing legal framework.

Third, the social justice imperatives of fisheries governance, including the rights of small-scale fishing communities, the gendered dimensions of coastal fishing livelihoods, and the equitable distribution of benefits from marine resource exploitation, require specific legal provisions that the 2020 Act does not adequately provide. The failure to address these dimensions of fisheries governance will result in an inequitable distribution of the costs and benefits of sustainable fisheries management, with the poorest and most marginalised communities bearing the greatest burdens while elites and industrial interests capture the greatest benefits.

Fourth, the climate change emergency requires a fisheries governance framework that is explicitly designed for a rapidly changing ocean, incorporating climate-adaptive management approaches, climate-resilient institutional arrangements, and legal connections to the international climate governance architecture that the 2020 Act entirely lacks.

Fifth, the blue economy ambitions of Bangladesh's Vision 2041 strategy cannot be realised without a governance framework that provides investors, communities, and resource users with the legal certainty, the institutional capacity, and the sustainability assurances that serious blue economy development requires. An inadequate fisheries governance framework is not merely a legal deficiency; it is an economic constraint that will limit the realisation of Bangladesh's maritime development potential.

14.2 Key Elements of a Proposed Marine Fisheries Management Act

A new and comprehensive Marine Fisheries Management Act should be developed through a thorough participatory process involving all relevant stakeholders, including fishing communities, the fishing industry, scientific institutions, environmental organisations, and government agencies. The following key elements should be included in this new Act, drawn from the analysis in this Part and from the best practice of comparable fisheries jurisdictions.

The Act should establish a clear statement of purpose, objective, and guiding principles, including the precautionary principle, the ecosystem approach, the principle of sustainable development, the principle of intergenerational equity, the principle of common but differentiated responsibilities in the climate change context, and the principle of social justice and human rights in relation to fishing communities.

The Act should establish robust scientific stock assessment requirements, requiring the Bangladesh Marine Fisheries Authority to commission independent stock assessments for all commercially important species at intervals not exceeding three years, using the best available scientific methodologies, and to publish the results of these assessments with appropriate quality assurance documentation.

The Act should operationalise the precautionary approach through the establishment of precautionary reference points for each assessed stock, including limit reference points below which fishing mortality must be immediately reduced, target reference points providing the goal for management under normal conditions, and trigger points requiring enhanced management scrutiny. The Act should specify the management actions required when stocks fall below reference points, including a mandatory stock recovery plan with specific targets and timelines.

The Act should establish a comprehensive licensing and quota system, including a system of fishing rights that specifies the conditions, duration, and transferability of fishing licences, the methodology for setting total allowable catches and allocating them among licence holders, and the procedures for licence renewal, modification, suspension, and revocation. The licensing system should include explicit provisions for the protection of small-scale fishing community access rights, including guaranteed allocation to artisanal and small-scale fishing sectors.

The Act should establish a mandatory Vessel Monitoring System (VMS) for all commercial fishing vessels above a specified size threshold, a comprehensive catch documentation scheme for all commercially important export species, and a fishing vessel register that is publicly accessible and regularly updated.

The Act should establish a comprehensive MPA framework with specific targets for MPA coverage, a programme of priority MPA designations including at minimum the Swatch-of-No-Ground, expanded Sundarbans protection, and offshore habitat protection measures, a requirement for scientifically based MPA management plans, and resources for MPA monitoring and enforcement.

The Act should contain specific provisions for the governance of small-scale fisheries, including recognition of customary fishing rights, provisions for community-based management, gender mainstreaming requirements, and an adequate and legally enforceable compensation and safety net regime for conservation measures that impose costs on fishing communities.

The Act should contain specific provisions for climate-adaptive management, including requirements for the integration of climate projections into stock assessments and management plans, provisions for the designation and protection of climate refugia, and mechanisms for rapid management adaptation in response to observed climate impacts.

The Act should provide for the establishment of the Bangladesh Marine Fisheries Authority as the primary regulatory body, with the institutional characteristics described in Chapter Thirteen, replacing the current Department of Fisheries as the primary fisheries governance institution.

The Act should establish an administrative sanctions system and a fisheries adjudication mechanism providing for rapid, technically informed, and legally sound resolution of fisheries violation cases, separate from the ordinary criminal court system.

14.3 The Ratification Agenda: International Instruments and Bangladesh

The legislative reform agenda must be accompanied by a diplomatic and legal engagement programme aimed at closing the gaps in Bangladesh's ratification of key international fisheries instruments. The most important priorities are:

The ratification of the Port State Measures Agreement (PSMA), which would significantly strengthen Bangladesh's capacity to combat IUU fishing through port state controls and would provide Bangladesh with legal authority to deny port access to IUU fishing vessels from other states.

Formal engagement with the process for the implementation of the WTO Fisheries Subsidies Agreement, including an audit of Bangladesh's fisheries subsidy programmes for compatibility with the Agreement and the development of plans for any necessary subsidy reform.

Ratification and implementation of the Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement), including the development of domestic implementation legislation.

Active engagement in the development of a subregional fisheries management agreement for the northern Bay of Bengal, building on the BIMSTEC framework, the BOBP-IGO, and the impetus provided by the BIMSTEC Maritime Transport Cooperation Agreement of 2025.

14.4 The Fiscal Architecture of Fisheries Governance Reform

The legislative and institutional reforms recommended in this Part will require significant and sustained financial investment. The development of an adequate fisheries governance framework for Bangladesh's 118,813 square kilometres of maritime zone requires investment in patrol vessels, VMS infrastructure, stock assessment vessels and equipment, MPA monitoring systems, scientific research capacity, enforcement training and personnel, administrative systems for licensing and quota management, and safety net programmes for fishing communities.

The fiscal architecture for these investments should be designed to ensure adequate and sustainable funding without placing undue burdens on the fishing sector, particularly on small-scale fishing communities. A combination of general government appropriation, resource rentals from the industrial fishing sector calibrated to the economic value of the licences and quotas granted, international climate finance for climate-adaptive fisheries governance measures, and development assistance from bilateral and multilateral partners can provide a diversified and sustainable funding base for the governance reform programme.

The principle that resource users should contribute to the costs of governance, through licence fees and resource rentals that reflect the economic value of the access rights granted, is both economically sound and legally grounded in the public trust doctrine that treats marine resources as held by the state on behalf of the public. The industrial fishing sector in Bangladesh currently pays fees and charges that are widely regarded as substantially below the economic rent value of the resource access they provide, and reform of the fee and rental structure would both generate revenue for governance and improve the economic efficiency of resource allocation.

CONCLUSION TO PART THREE

Part Three of this textbook has undertaken a comprehensive legal, jurisprudential, and political analysis of Bangladesh's marine fisheries governance framework, with particular focus on the Marine Fisheries Act 2020 and the path toward a comprehensive modern resource management system. The analysis has ranged across the philosophical foundations of fisheries law, the historical evolution of fisheries governance in Bangladesh, the international legal framework established by UNCLOS and supplementary instruments, the detailed provisions of the 2020 Act and their critical assessment against international standards, the specific governance challenges of IUU fishing, hilsa conservation, ecosystem-based management, transboundary stocks, small-scale fisheries rights, climate adaptation, marine protected areas, and institutional architecture, and the comprehensive reform agenda required to bring Bangladesh's fisheries governance into conformity with its legal obligations and its development aspirations.

Several overarching conclusions emerge from this analysis that deserve restatement in this conclusion.

The Marine Fisheries Act 2020, while a significant improvement over the 1983 Ordinance it replaced, does not provide an adequate legal framework for the sustainable governance of

Bangladesh's marine fisheries in the twenty-first century. Its principal deficiencies include the lack of operational mechanisms for the precautionary approach and ecosystem-based management, the inadequacy of its IUU fishing control provisions in the absence of a mandatory VMS system and catch documentation scheme, the failure to address transboundary stocks and the duty to cooperate under UNCLOS Articles 63 and 64, the inadequate protection of small-scale fishing community rights and livelihoods, the absence of climate-adaptive management provisions, and the institutional fragmentation and capacity deficiencies that undermine the effective implementation of its provisions.

The international legal framework for fisheries governance, as elaborated in UNCLOS, the UNFSA, the 2015 ITLOS SRFC Advisory Opinion, the FAO Code of Conduct, and the emerging climate obligations confirmed by the 2024 ITLOS Advisory Opinion on climate change, creates a demanding set of standards against which Bangladesh's domestic legislation must be measured. The gap between international obligation and domestic implementation is significant, and it creates legal exposure for Bangladesh as well as practical governance failures.

The reform of Bangladesh's marine fisheries governance framework is not merely a technical legal exercise; it is a matter of national priority that intersects with food security, poverty reduction, biodiversity conservation, climate justice, and national development aspirations. The fish in Bangladesh's waters belong in the most fundamental sense to the people of Bangladesh and to future generations. The legal framework that governs their exploitation and conservation must be worthy of this trust and adequate to these responsibilities.

The reform agenda proposed in Chapter Fourteen is ambitious but achievable. It requires political will, adequate resources, meaningful participation of fishing communities and civil society, and sustained engagement with the international fisheries law framework. Bangladesh has demonstrated, through its successful maritime boundary arbitrations and through innovations like the Maa Ilish programme, that it is capable of effective and principled action in the maritime legal sphere. The same capacity and commitment must now be brought to the comprehensive reform of its marine fisheries governance framework.

The ocean will not wait for the law to catch up. The fish stocks of the Bay of Bengal are under pressure from overfishing, climate change, pollution, and habitat degradation that will not pause while legislative processes run their course. The urgency of reform is real, and it demands a response from Bangladesh's legal, political, and governance institutions commensurate with the scale of the challenge.

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End of Part Three

Part Four: The Legal Governance of Offshore Hydrocarbons, Minerals, and Energy Resources in Bangladesh will follow as the next volume in this series. The editor notes that the analysis in Parts One through Three has established the foundational legal, philosophical, and practical framework within which the more specific governance challenges of offshore resource exploitation, marine environmental protection, maritime transport, and institutional reform will be addressed in subsequent Parts. The reform agenda articulated across these three Parts is conceived as a coherent whole, and readers are encouraged to engage with the full series as an integrated commentary on the totality of Bangladesh's maritime governance challenges and opportunities.

PART FOUR

THE LEGAL GOVERNANCE OF OFFSHORE HYDROCARBONS, SEABED MINERALS, AND MARITIME ENERGY RESOURCES IN BANGLADESH: SOVEREIGNTY, CONTRACTS, ENVIRONMENTAL ACCOUNTABILITY, AND THE IMPERATIVE OF COMPREHENSIVE REFORM

A COMMENTARY ON RESOURCE LAW, POLITICAL ECONOMY, DEEP SEABED JURISPRUDENCE, PRODUCTION SHARING CONTRACTS, AND THE PHILOSOPHICAL DIMENSIONS OF SUBSOIL SOVEREIGNTY IN THE BAY OF BENGAL

PREFACE TO PART FOUR

The sea beneath the waves holds a different kind of promise than the sea itself. Where the surface of the ocean sustains fisheries, trade, and transport, the subsoil of the continental shelf and the floor of the deep ocean contain the concentrated products of geological time on a scale that has the capacity to transform the economic foundations of coastal states and to reshape the

geopolitical order of entire regions. For Bangladesh, a nation whose geological setting in the Bengal Fan, the world's largest deep-water sedimentary basin, places it at the centre of what may prove to be one of the most significant untapped hydrocarbon provinces on earth, the legal governance of offshore resources is not an academic exercise. It is a question of national destiny.

Part Four of this commentary addresses the legal governance of offshore hydrocarbons, seabed minerals, and maritime energy resources in Bangladesh. It does so with the ambition and analytical depth that the subject demands, ranging across the philosophical foundations of subsoil sovereignty, the doctrinal architecture of international resource law, the specific provisions of UNCLOS relating to the continental shelf and the international seabed Area, the legal framework for Production Sharing Contracts, the governance of offshore energy development, the emerging jurisprudence of deep seabed mining regulation, the environmental accountability framework for offshore resource exploitation, and the comprehensive institutional and legislative reforms that Bangladesh's maritime resource governance requires.

The urgency of this analysis is underscored by recent developments. The Bangladesh Offshore Bidding Round of 2024, the first such tender in eight years, offered twenty-four blocks comprising approximately 93,000 square kilometres of Bangladesh's maritime territory for oil and gas exploration. Despite expressions of interest from ExxonMobil, Chevron, CNOOC, Sinopec, and numerous other international oil companies, the round failed to produce any signed contracts, partly because of political instability following the ouster of Sheikh Hasina in August 2024. As of early 2026, with a new BNP government having come to power following elections in February 2026, a revised tender process is being prepared, but offshore exploration in Bangladesh's waters remains at a standstill. Meanwhile, India's ONGC achieved first oil from its flagship deepwater Krishna-Godavari block in January 2024, producing from the same geological formation that underlies Bangladesh's maritime territory, and Myanmar's offshore fields to the east continue to supply gas to China through the Kyaukpyu pipeline. Bangladesh, in the phrase of one 2026 analysis, is late to the party in a regional energy scramble that is accelerating without it.

At the international level, the governance of the seabed beyond national jurisdiction is in a state of profound institutional and legal uncertainty. The International Seabed Authority, meeting at its thirtieth session in Kingston, Jamaica, in March and July 2025, continued negotiations on the Draft Exploitation Regulations for deep seabed mining, having missed the legally mandated 2023 deadline for their adoption. The United States, under executive order of the Trump administration, has sought to bypass the ISA framework entirely by issuing national permits for deep seabed mining operations in the Clarion-Clipperton Zone, a development described by ISA Secretary-General Leticia Carvalho as a violation of international law and a fundamental challenge to the principle of the common heritage of mankind. The tension between the established UNCLOS framework, the aspirations of developing states for equitable benefit-sharing from the deep seabed, and the unilateral ambitions of powerful states and private companies has reached a level of acuity that threatens the integrity of the international legal order for ocean governance.

Bangladesh sits at the intersection of all of these developments. Its offshore continental shelf abuts the world's most underexplored deep-water sedimentary basin. Its domestic legal

framework for offshore resource governance is fragmented, outdated, and inadequate. Its institutional capacity for offshore resource management is limited by comparison with its neighbours and its aspirations. And its international legal engagement with the governance of the seabed beyond national jurisdiction, as a member of the ISA and a party to UNCLOS, places it in a position where the outcome of the global negotiations on deep seabed mining will significantly affect its interests and its legal obligations.

This Part proceeds through seventeen chapters that collectively constitute a comprehensive commentary on the legal governance of offshore resources in Bangladesh. They are designed to be read as a coherent whole but are also capable of being consulted individually for specific topics. The analysis is simultaneously theoretical and practical, historical and forward-looking, doctrinal and critical, with the ultimate aim of providing a rigorous foundation for the legislative and institutional reforms that Bangladesh's offshore resource governance urgently requires.

CHAPTER 15: PHILOSOPHICAL AND JURISPRUDENTIAL FOUNDATIONS OF SUBSOIL RESOURCE SOVEREIGNTY

15.1 The Earth Beneath the Sea: Property, Sovereignty, and Natural Law

The question of who owns the resources beneath the seabed is one of the most philosophically challenging questions in the entire body of international law. It combines some of the deepest puzzles in the theory of property, including the question of how rights in natural objects are acquired and justified, with some of the most contested questions in the theory of sovereignty, including the question of the territorial extent and functional limits of state authority. The philosophical analysis of subsoil resource sovereignty reveals a rich and contested intellectual history that illuminates the contemporary legal framework while also challenging some of its most fundamental assumptions.

The philosophical foundation of property rights in natural resources has traditionally been sought in one of three competing theoretical traditions. The Lockean tradition, derived from John Locke's Second Treatise of Government of 1689, grounds property rights in the mixing of labour with natural objects, the act of appropriating and improving natural materials through one's own productive effort. On this view, a person or state that invests labour and capital in the exploration, discovery, and extraction of underground resources acquires a property right in those resources as a result of that productive investment. This labour-mixing theory has been enormously influential in the development of property law, including the law of mineral rights, and it provides a prima facie justification for the rights of states and private companies that invest in offshore exploration and development.

However, the Lockean theory contains a significant internal tension that becomes acutely apparent in the context of subsea resources. Locke's argument that property rights are justified by labour-mixing was qualified by what he called the sufficiency proviso, the condition that the appropriation must leave enough and as good for others. In the context of limited and non-renewable natural resources, including hydrocarbons and seabed minerals, the sufficiency

proviso cannot be satisfied, since the extraction of these resources necessarily depletes them and leaves less for others, including future generations. This has led a number of philosophers, most notably Robert Nozick in his Anarchy, State, and Utopia of 1974, to grapple with the question of how the Lockean proviso applies in conditions of genuine scarcity, and it has led others, most notably G.A. Cohen and his successors in the tradition of left-libertarianism, to argue that natural resources are in principle the common property of all humanity and that the appropriation of them by states or individuals requires justification beyond the mere act of mixing labour.

The utilitarian tradition, associated with Jeremy Bentham and John Stuart Mill, justifies property rights not as natural rights grounded in labour or consent but as legal institutions justified by their consequences for overall welfare. On this view, the assignment of exclusive property rights in natural resources to states and corporations is justified if and only if this arrangement produces better aggregate outcomes than alternative arrangements, such as common ownership or public regulation. The utilitarian analysis of offshore resource rights is complex and context-dependent: it suggests that the optimal institutional arrangement will depend on the specific circumstances of the resource, the available technology, the distribution of bargaining power among potential exploiters, and the environmental and social consequences of different governance arrangements.

John Rawls, whose Theory of Justice of 1971 remains the most influential work in contemporary political philosophy, provides a third framework for evaluating the justice of resource rights. Rawls argued that the principles of justice governing the basic structure of society should be chosen by rational agents behind a veil of ignorance, without knowledge of their specific circumstances, talents, or social position. Applied to the international distribution of natural resources, the Rawlsian framework suggests, though Rawls himself did not develop this application fully, that the principles governing the distribution of resource rights should be chosen by representatives of all states without knowledge of which state they represent and therefore without knowledge of whether their state happens to be resource-rich or resource-poor, geologically fortunate or geologically unfortunate. If this Rawlsian thought experiment is taken seriously, it is not clear that the UNCLOS framework, which assigns resource rights based on the geographical accident of coastal location, can be fully justified from a perspective of global justice.

The natural law tradition, which grounds rights not in labour, utility, or rational choice but in the inherent moral order of the universe, provides a fourth perspective. Grotius, whose natural law theory of the sea was discussed in Part One, argued that certain things are by nature common to all people and cannot be appropriated. While Grotius applied this principle primarily to the sea itself, it can be extended to the resources of the deep seabed, which by their physical remoteness and their technical inaccessibility have in some sense been beyond the practical appropriation of any state or individual throughout most of human history. The common heritage of mankind principle, first articulated by Arvid Pardo in 1967 and codified in Part XI of UNCLOS, can be understood as a modern natural law claim of this kind, asserting that the resources of the deep seabed are in a morally fundamental sense the property of all humanity, not of any particular state or corporation.

15.2 Permanent Sovereignty over Natural Resources and its Maritime Application

The principle of permanent sovereignty over natural resources was articulated by the United Nations General Assembly in its Resolution 1803 of 1962, which declared that the right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned. This resolution, adopted at the height of the decolonisation era and the non-aligned movement, represented a fundamental challenge to the property rights of foreign corporations that had exploited the natural resources of colonised and developing states under conditions of unequal bargaining power and often under the political authority of colonial powers.

The principle of permanent sovereignty over natural resources has been elaborated and contested in the subsequent decades. Its application to offshore maritime resources has been particularly complex, because the boundaries of national sovereignty over maritime spaces are themselves creatures of international law, established by UNCLOS and its predecessors rather than by any inherent or pre-legal entitlement of states. The sovereign rights of coastal states over the resources of the continental shelf and the EEZ, as established by Articles 77 and 56 of UNCLOS respectively, are rights created by international treaty and given effect through the national legal framework of each state. They are not natural rights in the sense of rights that exist independently of any legal framework; they are institutional rights created by a particular international legal arrangement and dependent on that arrangement for their validity and effectiveness.

This institutional character of offshore resource rights has significant philosophical and practical implications. It means that the content of these rights, their scope, their limitations, and their relationship to the obligations of international environmental law and the rights of third states, is determined by the international legal framework, not by any domestic legal assertion. A state that asserts sovereign rights over its continental shelf resources in terms inconsistent with UNCLOS is not exercising a legitimate right but making an illegal claim. A state that fails to meet its environmental protection obligations under Part XII of UNCLOS while exploiting its offshore resources is violating international law, regardless of what its domestic legislation provides. The permanent sovereignty principle, in the maritime context, is always subject to the constraints of the international legal framework within which that sovereignty is recognised and given effect.

For Bangladesh, this means that the assertion of sovereign rights over the resources of its continental shelf and EEZ, while legitimate and important, is always qualified by the obligations of UNCLOS. The exploitation of Bangladesh's offshore hydrocarbons must comply not only with the economic and fiscal framework of domestic law but also with the environmental protection standards of Part XII of UNCLOS, as interpreted and elaborated by the 2024 ITLOS Advisory Opinion on climate change. The governance of Bangladesh's offshore resources is, in this sense, a matter of international as well as national legal obligation.

15.3 The Common Heritage of Mankind: Philosophy, Law, and the ISA Crisis of 2025

The concept of the common heritage of mankind, the philosophical centrepiece of Part XI of UNCLOS and the governing principle of the International Seabed Authority, deserves extended analysis in this Part, both because of its philosophical richness and because of the profound

institutional crisis it is currently experiencing. The concept was formulated by Arvid Pardo in his famous speech to the UN General Assembly in 1967 with a clarity and passion that has rarely been matched in the history of international legal discourse.

Pardo argued that the resources of the deep seabed, which he estimated to include enormous quantities of manganese nodules containing nickel, cobalt, copper, and manganese, as well as potentially significant oil and gas resources, belonged not to any state, not to any corporation, not even to the international community of states as an aggregate, but to mankind as such, considered as a unity that includes both living people and future generations. This was a radical philosophical claim. It asserted a form of collective ownership that transcended the state-centric framework of international law and anticipated, by several decades, the development of international environmental law concepts such as intergenerational equity and global commons governance.

The philosophical foundations of the common heritage concept draw on several distinct intellectual traditions. It resonates with the natural law tradition of Grotius, who argued that certain things are by nature common to all. It connects with the socialist critique of private property and the idea that the products of nature, as distinct from the products of labour, cannot justly be appropriated by individuals or particular groups. It anticipates the environmental ethics of Hans Jonas, whose Imperative of Responsibility of 1979 argued that the obligation to preserve the conditions of future human life must be treated as the most fundamental moral duty, taking precedence over the claims of present generations to exploit natural resources. And it draws on the principle of distributive justice, arguing that the benefits of the deep seabed's mineral wealth should flow to all of humanity, especially to developing nations, rather than being monopolised by those with the technology and capital to exploit them.

The incorporation of the common heritage principle into UNCLOS Part XI was, however, a politically compromised process. The United States and other developed states resisted the strong form of the common heritage concept, which would have vested the resources of the Area directly in an international institution representing all humanity, and insisted on modifications that preserved a significant role for private enterprise and market mechanisms in deep seabed resource exploitation. The result was the compromise of Part XI, as modified by the 1994 Agreement relating to the Implementation of Part XI, which established the ISA as the governing institution but significantly modified its decision-making structures, reduced the mandatory transfer of technology provisions, and introduced more market-oriented principles for the governance of deep seabed activities.

The crisis of 2025 has exposed the fundamental tension between the common heritage principle and the reality of technological power. The Metals Company, sponsoring companies from Nauru and Tonga, having exhausted its patience with the ISA's slow progress toward adoption of the Mining Code, sought a commercial mining permit from the United States government under its domestic deep seabed mining legislation, the Deep Seabed Hard Mineral Resources Act of 1980. The Trump administration's Executive Order directing NOAA to facilitate deep seabed mining outside the ISA framework, and TMC's April 2025 application for exploration and exploitation permits covering some 225,000 square kilometres of the Clarion-Clipperton Zone, represents a

direct challenge to the international legal framework established by UNCLOS and to the common heritage of mankind principle.

The ISA's response, through Secretary-General Leticia Carvalho, was legally clear and philosophically principled: the Area and its resources are the common heritage of humankind, and any extraction of minerals from the Area without ISA authorisation is a violation of UNCLOS and of customary international law. One hundred and seventy ISA member states, including thirty-nine states individually and the African Group representing forty-nine countries, reaffirmed the ISA's exclusive mandate during the March 2025 session. The legal principle is not in serious doubt. But the practical reality is that the United States, the world's most powerful state and a non-party to UNCLOS, has indicated its intention to proceed regardless, and the ISA lacks any enforcement mechanism capable of preventing this.

For Bangladesh, the 2025 ISA crisis is both a legal and a strategic concern. As a member of the ISA, Bangladesh has an interest in the integrity of the common heritage framework, which provides the legal basis for its entitlement to a share of the benefits of deep seabed mineral exploitation, however limited its practical capacity to exploit those resources may be. The operationalisation of the Economic Planning Commission, which is mandated to advise the ISA Council on the equitable distribution of financial benefits from deep seabed mining, is of particular importance to Bangladesh as a developing state that would receive a share of those benefits. The unilateral actions of the United States, if allowed to proceed without effective international response, would undermine the benefit-sharing principle that is Bangladesh's principal practical interest in the ISA framework.

At the same time, the failure of the ISA to adopt the Mining Code on schedule, having missed the 2023 deadline and produced no agreed text by the close of the July 2025 session, reflects a deeper governance challenge. The ISA process has been characterised by excessive procedural complexity, by fundamental disagreements between pro-mining and cautious states, and by the competing interests of sponsoring states, contractors, developing country members, and environmental advocates. The procedural and substantive reform of the ISA is itself a matter that Bangladesh should engage with actively, both in the interest of effective governance of the global commons and in the interest of ensuring that the benefit-sharing mechanisms of the common heritage framework are real and not merely nominal.

15.4 Permanent Sovereignty, Intergenerational Justice, and the Rawlsian Critique of UNCLOS Resource Allocation

The Rawlsian critique of UNCLOS resource allocation, sketched in the previous section, deserves more extended development here because it raises questions that are directly relevant to Bangladesh's situation and to the reform of international resource law more broadly.

The UNCLOS framework allocates resource rights based on geographic proximity to the coast. States with long coastlines and large maritime zones receive much larger entitlements than states with short coastlines or no coastline at all. The allocation is, in a fundamental sense, a lottery based on the geographical accident of coastal location, a factor over which states have no moral responsibility. Bangladesh, by the good fortune of its coastal geography and its successful

international arbitration, has been assigned rights over 118,813 square kilometres of maritime territory containing potentially significant hydrocarbon resources. Nepal and Bhutan, equally poor and equally deserving by any standard of distributive justice, receive nothing from the UNCLOS resource allocation framework because they are landlocked.

From a Rawlsian perspective behind the veil of ignorance, this geographic lottery is difficult to justify. Representatives of states who did not know whether they represented a coastal state or a landlocked state, a resource-rich or a resource-poor state, would presumably choose principles that provide for a more equitable distribution of the benefits of maritime resource exploitation across all states, including landlocked states and geographically disadvantaged states. The common heritage of mankind principle, applied consistently across all maritime resource zones, would represent such a more equitable arrangement. But this is not what UNCLOS provides; UNCLOS limits the common heritage principle to the Area, the deep seabed beyond 200 miles, which contains the mineral resources of the ocean floor but not the hydrocarbon resources of the continental shelf.

The philosopher and legal theorist Lea Brilmayer has argued that international law in general, and the law of the sea in particular, suffers from what she calls the problem of entitlement, the absence of any coherent philosophical foundation for the allocation of resources and rights among states. The UNCLOS framework for resource allocation reflects the outcomes of political negotiation rather than any principle of justice, and it is difficult to defend from a philosophical perspective. This critique does not necessarily imply that the UNCLOS framework should be abandoned; it implies rather that the framework must be accompanied by redistributive mechanisms that correct for its inherent inequities. The technology transfer provisions of Part XI, the benefit-sharing mechanisms of the ISA, the preferential access provisions of the BBNJ Agreement, and the capacity-building obligations of UNCLOS are all attempts to address this redistributive imperative, though none of them fully succeeds.

Bangladesh's situation illustrates both the promise and the limits of the UNCLOS framework. The successful delimitation of Bangladesh's maritime boundaries through international arbitration was a triumph of legal principle over political power, demonstrating that the international legal system can deliver genuine justice to a relatively small and poor state in a dispute with its more powerful neighbours. The award of 118,813 square kilometres of maritime territory to Bangladesh was, from the perspective of distributive justice, a broadly equitable outcome given the coastal geography and the applicable legal principles of equitable delimitation. But the failure of Bangladesh to translate this legal entitlement into actual economic benefit, through the exploitation of its offshore hydrocarbon resources, illustrates the limits of legal rights in the absence of institutional capacity and political will. The right without the capacity to exercise it is an incomplete justice.

CHAPTER 16: THE UNCLOS FRAMEWORK FOR CONTINENTAL SHELF RESOURCES AND ITS APPLICATION TO BANGLADESH

16.1 The Continental Shelf Doctrine: From Truman to UNCLOS

The legal concept of the continental shelf as a basis for coastal state jurisdiction over seabed resources is one of the most significant contributions of twentieth-century international law to the governance of the oceans. Its origins, as noted in Part One, lie in the Truman Proclamation of 1945, which unilaterally asserted United States jurisdiction and control over the natural resources of the seabed and subsoil of the continental shelf contiguous to the coasts of the United States. This assertion, by the most powerful state in the post-war world, quickly generated a wave of similar proclamations by other coastal states, inaugurating the process of customary law formation that was eventually codified in the 1958 Geneva Convention on the Continental Shelf and then further developed in UNCLOS.

The legal definition of the continental shelf has evolved significantly over this period. The 1958 Geneva Convention defined the shelf as the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources. This exploitability criterion proved technologically unstable, as deep-water drilling technology advanced rapidly in the following decades, threatening to expand the continental shelf to the limits of exploitability, which could potentially encompass the entire deep ocean floor.

UNCLOS Article 76 replaced the exploitability criterion with a comprehensive definitional framework based on the natural prolongation of the land territory of the coastal state to the outer edge of the continental margin, subject to a maximum limit of 350 nautical miles from the baseline or 100 nautical miles from the 2,500-metre isobath. The coastal state with a wide continental margin that extends beyond 200 nautical miles may claim sovereign rights over the extended continental shelf up to these outer limits, subject to the submission of data to the Commission on the Limits of the Continental Shelf (CLCS), which is established under Annex II of UNCLOS to make recommendations on the outer limits of the extended continental shelf.

Article 77 of UNCLOS establishes the content of the coastal state's rights over the continental shelf resources. The coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. These rights are exclusive in the sense that if the coastal state does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal state. The natural resources referred to consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, those organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil. The continental shelf rights are sovereign rights rather than sovereignty itself: they are functional rights exercised for specific purposes, not a comprehensive territorial claim. This distinction has important implications for the environmental governance of the continental shelf, the rights of other states in relation to the superjacent water column, and the regulatory framework applicable to offshore activities.

16.2 Bangladesh's Continental Shelf: Geological Setting and Legal Entitlement

Bangladesh's continental shelf is geologically extraordinary. The Bengal Fan, the submarine depositional system formed by the Himalayan rivers carrying their enormous sediment loads into the Bay of Bengal, has created one of the most extensive and deepest accumulations of sedimentary rock on earth, extending from the shallow coastal waters to water depths of several thousand metres. The fan underlies the entirety of Bangladesh's maritime territory, including both its EEZ and, at greater depths, the outer continental shelf area beyond 200 nautical miles where Bangladesh has claimed extended shelf rights.

The geological significance of the Bengal Fan for hydrocarbon potential cannot be overstated. Hydrocarbons form in sedimentary basins where organic material is buried and subjected to heat and pressure over geological time, converting it into oil and gas through a process of organic maturation. The Bengal Fan's enormous thickness of organic-rich sediment, deposited over millions of years by the Ganges, Brahmaputra, and Meghna river systems, provides exactly the conditions required for hydrocarbon generation. Geological surveys, including the multi-client 2D seismic survey conducted by TGS in 2023 covering a large portion of Bangladesh's offshore blocks, have confirmed the presence of working petroleum systems in the deep-water areas of Bangladesh's EEZ, with structural features analogous to the productive areas of the Gulf of Mexico and the Niger Delta.

The legal status of Bangladesh's continental shelf was defined by the ITLOS judgment of 2012 and the PCA award of 2014, as described in Part One, which established the boundaries of Bangladesh's shelf with Myanmar and India respectively. Bangladesh submitted preliminary information to the CLCS in 2009 regarding its potential extended continental shelf claim beyond 200 nautical miles, and made a formal submission in 2011. The CLCS has not yet issued final recommendations on Bangladesh's submission, and the outer limits of Bangladesh's extended continental shelf remain formally undetermined. This is a matter of ongoing legal significance, as the extended continental shelf contains deep-water sedimentary formations that may contain significant hydrocarbon resources.

The 2021 Territorial Waters and Maritime Zones (Amendment) Act addresses the continental shelf in sections 7, 7A, and 7B. Section 7 confirms Bangladesh's sovereign rights over the natural resources of the seabed and subsoil of the continental shelf for the purpose of their exploration and exploitation. Section 7A addresses the extended continental shelf, noting that its outer limits are to be established in accordance with UNCLOS Article 76 and on the basis of CLCS recommendations. Section 7B addresses the royalties and other obligations applicable to the exploitation of the continental shelf in accordance with UNCLOS Article 82, which requires coastal states to make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles.

The commentary on these provisions must identify several significant gaps. First, the Act does not address the grey area problem created by the PCA award of 2014, in which an area of sea exists where Bangladesh has continental shelf rights in the seabed but India has EEZ rights in the superjacent water column. This complex legal situation requires specific legislative provision, either through domestic legislation or through a bilateral agreement with India, and the current legal silence is a significant problem for offshore development in the affected area. Second, the Act does not specify the procedures and standards for the authorisation and regulation of drilling

operations on the continental shelf, deferring this matter to secondary legislation and administrative practice under the Bangladesh Oil, Gas and Mineral Corporation Ordinance. Third, the Act does not address the environmental impact assessment requirements applicable to continental shelf exploration and exploitation, leaving this critical dimension of governance in a legal vacuum.

16.3 The Relationship Between Article 76, the CLCS, and Bangladesh's Extended Shelf Claim

The Commission on the Limits of the Continental Shelf is a body of twenty-one members elected by state parties to UNCLOS on the basis of their expertise in geology, geophysics, or hydrography. It performs a scientific and technical advisory function, examining the data submitted by coastal states in support of their extended continental shelf claims and making recommendations on whether the outer limits proposed by the coastal state are consistent with the criteria established in Article 76. The outer limits of the continental shelf established by a coastal state on the basis of the CLCS's recommendations are final and binding, under Article 76(8).

The interaction between the CLCS's scientific-advisory function and the judicial boundary-delimitation function performed by ITLOS and arbitral tribunals was the subject of significant jurisprudential development in Bangladesh's own cases. As noted in Part One, ITLOS in the Bangladesh-Myanmar case held that it had jurisdiction to delimit the outer continental shelf boundary between the two states even before the CLCS had made its recommendations. The Tribunal reasoned that the judicial function of delimitation, determining which state's claim takes precedence in an area of overlapping entitlements, is distinct from the delineation function of the CLCS, determining how far a state's entitlement extends. This reasoning has been broadly accepted in subsequent jurisprudence, though it remains theoretically contested.

Bangladesh's formal CLCS submission of 2011 described the outer limits of its claimed extended continental shelf in the Bay of Bengal. The submission was made in the context of ongoing boundary disputes with India and Myanmar, which complicated the assessment of Bangladesh's claim, since the CLCS does not consider submissions in areas where a maritime boundary dispute exists between states, unless all states concerned consent. The resolution of the boundary disputes through the ITLOS and PCA proceedings removed this obstacle in principle, though the CLCS's consideration of Bangladesh's submission is still pending.

The practical importance of finalising the CLCS process cannot be overstated. Until the outer limits of Bangladesh's extended continental shelf are formally established, there is legal uncertainty about the extent of Bangladesh's sovereign rights over the deep-water seabed resources in the outer shell area. This uncertainty inhibits offshore investment in the deep-water blocks and prevents Bangladesh from fully asserting its rights over the potentially significant hydrocarbon resources of the outer shelf. Bangladesh should prioritise the completion of the CLCS process, which may require supplementing its 2011 submission with additional scientific data from more recent surveys, and should ensure that its domestic legal framework clearly provides for the exercise of sovereign rights over the extended continental shelf once its limits are formally established.

CHAPTER 17: THE LEGISLATIVE FRAMEWORK FOR OFFSHORE HYDROCARBON GOVERNANCE IN BANGLADESH

17.1 The Bangladesh Oil, Gas and Mineral Corporation Ordinance, 1985: An Outdated Foundation

The primary domestic legislation governing Bangladesh's offshore oil and gas sector is the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, enacted under the military government of General Ershad and establishing Petrobangla, the national oil, gas and mineral corporation, as the central institution of the sector. The Ordinance has been amended on several occasions since its enactment, but its fundamental structure, its allocation of functions between Petrobangla and the government, its framework for the authorisation of exploration and production, and its provisions on revenue management and fiscal arrangements have not been comprehensively reformed to reflect the current state of offshore law and best international practice.

The 1985 Ordinance predates Bangladesh's ratification of UNCLOS in 2001 and was drafted without systematic reference to the international legal framework for offshore resource governance. It establishes Petrobangla as the body responsible for the management of Bangladesh's oil, gas and mineral resources, with authority to enter into Production Sharing Contracts and other arrangements with private and foreign companies for the exploration and development of these resources. The Ordinance gives Petrobangla considerable discretion in the structuring and negotiation of PSCs, subject to approval by the Cabinet Committee on Economic Affairs for significant contracts.

The governance structure established by the 1985 Ordinance has several significant deficiencies from the perspective of good governance and international best practice. The Ordinance does not establish clear criteria and procedures for the award of exploration and production licences, creating the risk of opaque, discretionary, or politically influenced allocation decisions. It does not establish strong transparency requirements for PSC negotiations and terms, despite the enormous public interest implications of offshore resource contracts. It does not create an independent regulatory body with specific competence in offshore technical and environmental regulation, separate from Petrobangla, which combines the role of commercial operator with the role of contract administrator and quasi-regulatory authority. And it does not provide for a comprehensive system of environmental impact assessment, safety regulation, and liability for offshore accidents, which are essential elements of a modern offshore petroleum regulatory framework.

The conflation of commercial and regulatory functions in Petrobangla is perhaps the most significant structural deficiency of the current framework. When Petrobangla negotiates a PSC on behalf of the government, it is simultaneously the representative of the state's interest in maximising resource revenue and the quasi-regulatory body responsible for ensuring compliance with the contract's environmental and safety provisions. These roles are inherently in tension, and the experience of offshore petroleum governance in other jurisdictions, most dramatically

illustrated by the Deepwater Horizon disaster of 2010 in the Gulf of Mexico, demonstrates that the conflation of commercial and regulatory functions is a major contributor to regulatory failure, inadequate safety oversight, and environmental catastrophe.

17.2 Production Sharing Contracts: Legal Architecture, Economic Logic, and Critical Assessment

The Production Sharing Contract is the dominant legal instrument for the governance of offshore hydrocarbon exploration and production in Bangladesh and in most developing country hydrocarbon jurisdictions. The PSC model was developed in Indonesia in the 1960s and has since been adopted in modified forms across much of the developing world as the preferred framework for the governance of private and foreign investment in the petroleum sector. Understanding the legal architecture and economic logic of the PSC is essential to any critical assessment of Bangladesh's offshore resource governance.

In a PSC, the state, typically acting through its national oil company, retains title to the petroleum resources in situ, while granting to a private contractor the right to explore for and produce petroleum within a defined area for a defined period. The contractor undertakes the exploration work and bears the exploration risk. If commercial quantities of petroleum are discovered, the contractor is entitled to recover its exploration and development costs from the production stream before profit sharing commences. This cost recovery mechanism is called cost oil. The remaining production after cost recovery, known as profit oil, is then shared between the state and the contractor according to a formula specified in the contract. The state may also receive a royalty from total production before cost recovery, and it may receive a share of production through the participation of the national oil company alongside the contractor.

The economic logic of the PSC model is that it transfers exploration risk to the contractor while retaining for the state the sovereign right to the resource and a share of the economic rent generated by successful production. In theory, this arrangement aligns the interests of the contractor, which profits from successful exploration and production, with the interests of the state, which receives a share of the production without bearing exploration risk. The PSC model has been argued to be particularly appropriate for frontier exploration areas, where the geological risk is high and the capital requirements are large, because it provides an incentive for contractors to take risks that the state itself cannot afford to bear.

In practice, however, the PSC model has been the subject of significant criticism from the perspective of developing host states, and Bangladesh's experience with the PSC model illustrates many of these criticisms. The most fundamental criticism concerns the cost recovery mechanism. In the PSC model, the contractor recovers its costs from the production stream before profit sharing commences. This creates a strong incentive for the contractor to inflate its cost claims, since every dollar of costs claimed reduces the profit oil available for sharing and therefore increases the contractor's net effective share of production. The problem of cost inflation has been documented in PSCs in many jurisdictions, and it is particularly acute in developing host states like Bangladesh that lack the technical expertise and institutional capacity to verify contractor cost claims.

Bangladesh's experience with the Santos/Shell Sangu gas field PSC is a canonical illustration of this problem. As Professor Badrul Imam of the University of Dhaka has documented, Santos, the Australian company that operated the Sangu gas field in Bangladesh's offshore waters, received approximately 80 percent of the total revenue generated by the field as a result of cost recovery provisions that Bangladesh lacked the capacity to scrutinise effectively. The entire Sangu field, which was Bangladesh's first commercial offshore gas production, was essentially depleted without Bangladesh receiving an adequate economic return, and Santos exited the field in 2013, having extracted the commercially recoverable resources and leaving Bangladesh with neither the gas nor the revenue that should have accrued to it.

The legacy of this experience has been to make Bangladeshi officials and academics deeply sceptical of the PSC cost recovery model, and the revised PSC 2023 was partly designed to address these concerns. The PSC 2023 introduced the R-factor profit-sharing model, under which the division of profit oil between the government and the contractor is determined by a sliding scale based on the ratio of total contractor receipts to total contractor expenditures, with the government's share rising as the contractor's cumulative profitability increases. This model is intended to ensure that the government's share of the economic rent increases as the project becomes more profitable, while still providing adequate return to the contractor to justify investment in exploration. The cost recovery ceiling of 75 percent per year for both shallow and deep-sea wells provides some protection against unlimited cost recovery.

However, the PSC 2023 model, while an improvement over previous versions, still has significant weaknesses from a legal and governance perspective. The R-factor model requires sophisticated accounting and monitoring capabilities to implement effectively, and Bangladesh's monitoring capacity remains limited. The absence of a signature bonus, while making the terms more attractive to international oil companies, reduces the government's upfront revenue and eliminates a mechanism that provides an important early signal of the market's valuation of the blocks on offer. The uncapped gas price linked to Brent crude, while more favourable to Bangladesh than the fixed price of previous PSCs, exposes Petrobangla to the full downside risk of oil price volatility without any price floor protection. And the provision for full repatriation of profits by the contractor, while necessary to attract foreign investment, reduces the amount of foreign exchange retained in Bangladesh and the multiplier effect of offshore investment on the domestic economy.

17.3 The 2024 Offshore Bidding Round: Legal Analysis and Institutional Failure

The Bangladesh Offshore Bidding Round 2024, launched in March 2024 as the first offshore tender in eight years, offered twenty-four blocks, nine shallow sea blocks and fifteen deep-sea blocks, across approximately 93,000 square kilometres of Bangladesh's maritime territory, under the PSC 2023 model. The round attracted significant initial interest, including from ExxonMobil, which had separately approached Petrobangla in 2023 with an expression of interest in investing between USD 10 billion and USD 30 billion across deep-water blocks, the largest unsolicited expression of investment interest Bangladesh had ever received from a Western major, and from Chevron, CNOOC, Sinopec, ConocoPhillips, and approximately fifty other international companies.

Despite this initial interest, the 2024 Bidding Round failed to produce any signed PSCs. The deadline for bid submissions was September 2024, but no foreign company submitted a tender. The immediate cause was the political turmoil that followed the fall of Sheikh Hasina's government in August 2024 and the installation of an interim administration under Muhammad Yunus. Deep-water exploration, as the analysis in The Diplomat rightly noted in March 2026, requires a decade-long investment horizon, and companies need confidence that the government signing their contract will honour it even after a political transition. The uncertainty created by the political crisis was sufficient to persuade companies that had expressed strong interest to defer their participation.

The failure of the 2024 Bidding Round is, however, not explained solely by the political crisis. The round had already been designed with very attractive terms, including no signature bonus, no royalty, full profit repatriation, and an uncapped gas price linked to Brent crude. These terms were among the most attractive offered by any comparable developing-country offshore jurisdiction. Yet even before the political crisis, there was no guarantee that the round would succeed, because the Bangladesh offshore environment presents significant challenges beyond the fiscal terms: limited seismic data, uncertain infrastructure for gas transport and processing, limited institutional capacity for PSC administration, and a track record of slow regulatory decision-making. The fiscal terms of a PSC are only one element of the investment case; the overall operating environment is equally important.

The legal and institutional lessons of the 2024 Bidding Round failure are several. First, the PSC model, however attractively structured, is not a substitute for a comprehensive legal and regulatory framework that provides investors with the certainty, transparency, and efficiency they require. International oil companies investing in the deep-water exploration of a frontier basin are making a ten-to-fifteen-year commitment of significant capital, and they need assurance that the legal framework within which they will operate is stable, predictable, and fair. The current fragmentation of Bangladesh's offshore regulatory framework, with authority distributed among Petrobangla, the Ministry of Energy, the Cabinet Committee on Economic Affairs, and various other bodies, creates exactly the kind of institutional uncertainty that deters frontier exploration investment.

Second, the absence of a strong, independent, technically competent offshore regulatory body is a significant institutional gap. The countries that have attracted sustained offshore exploration investment, Norway, Australia, Malaysia, and increasingly India, have in common a well-established, technically competent, and institutionally independent offshore petroleum regulatory authority that provides clear, timely, and technically sound guidance to prospective investors. Bangladesh's offshore regulatory environment is characterised by technical capacity limitations, slow decision-making, and the conflation of commercial and regulatory functions in Petrobangla that creates conflicts of interest and reduces the credibility of the regulatory process.

Third, the environmental regulatory framework for offshore petroleum operations is inadequate. Major international oil companies, operating under their own environmental, social, and governance (ESG) commitments and under the ESG expectations of their institutional investors, require not only that the host state's environmental regulations are technically sound but also that they are effectively implemented and enforced. A regulatory framework that on paper requires

environmental impact assessments for offshore operations but lacks the institutional capacity to review and enforce those assessments provides no real assurance to internationally reputable companies and no real protection to Bangladesh's marine environment.

17.4 The Political Economy of Offshore Hydrocarbons: Who Governs, Who Benefits, Who Bears the Costs

The political economy of offshore hydrocarbon development in Bangladesh raises fundamental questions about power, distribution, and accountability that deserve explicit attention in any serious legal commentary. Who makes decisions about the terms on which Bangladesh's offshore resources are exploited? Who benefits from those decisions? And who bears the costs, including the environmental costs and the costs of foregone alternative uses of the maritime zone?

The current governance framework concentrates decision-making authority over offshore resources in a small number of institutions and individuals: Petrobangla, the Ministry of Energy and Mineral Resources, and the Cabinet Committee on Economic Affairs. Civil society, fishing communities whose livelihoods depend on the marine environment, academic experts, and the general public have virtually no formal role in the decision-making process, which takes place behind closed doors and is not subject to systematic public consultation or disclosure requirements. The PSC terms themselves are not publicly disclosed in their full detail, though summary information is made available. The environmental impact assessments for offshore operations, where they exist, are not subject to public review and comment.

This governance structure reflects a pattern of resource governance that political economists describe as the resource curse syndrome, the tendency of natural resource wealth to concentrate power in the hands of those who control access to the resource, to weaken accountability institutions, and to generate rent-seeking behaviour that undermines both political governance and economic development. The resource curse literature, pioneered by Richard Auty, Terry Lynn Karl, and Michael Ross, documents the ways in which petroleum wealth has undermined democracy and development in numerous developing country contexts, from Nigeria to Venezuela to Kazakhstan.

Bangladesh has not yet experienced the resource curse, partly because its offshore petroleum production has been so limited. But the governance architecture being established now, before significant offshore production begins, will determine whether Bangladesh is able to manage its offshore resources in a manner that distributes the benefits broadly, maintains democratic accountability, and protects the marine environment. The choices made in the design of the legal and institutional framework will have generational consequences, and they must be made with full awareness of the political economy risks as well as the economic opportunities.

The feminist political economy of offshore resources, an emerging analytical framework, draws attention to the gendered dimensions of offshore resource governance that conventional political economy often overlooks. Women in coastal communities in Bangladesh are directly affected by offshore oil and gas operations through changes in fish availability, which affect their economic roles in the post-harvest processing sector, through environmental changes that alter the coastal ecology on which their communities depend, and through the social changes generated by the

influx of offshore industry workers into coastal areas. Yet women have virtually no representation in the governance institutions that make decisions about offshore resource development, and gender impact assessments are not part of the regulatory framework for offshore operations. A reformed governance framework must address this gender blindness explicitly.

CHAPTER 18: INTERNATIONAL LAW OF OFFSHORE RESOURCE GOVERNANCE: UNCLOS OBLIGATIONS AND THEIR DOMESTIC IMPLEMENTATION

18.1 Articles 56, 77, and 78: The Legal Framework for Resource Rights and their Limitations

The foundation of the international legal framework for coastal state resource rights in the EEZ and on the continental shelf is laid in Articles 56, 77, and 78 of UNCLOS. These provisions, their interpretation, and their practical implications for Bangladesh's domestic legal framework, deserve careful analysis.

Article 56(1)(a) grants the coastal state sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil in the EEZ. Article 77(1) grants the coastal state sovereign rights for the purpose of exploring the continental shelf and exploiting its natural resources. Article 78(2) provides that the exercise by the coastal state of its rights over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in UNCLOS.

The characterisation of these rights as sovereign rights rather than sovereignty has important consequences. The ICJ in the Libya-Malta Continental Shelf case of 1985 described the continental shelf rights as exclusive in the sense that nobody can undertake activities in that area without the express consent of the coastal state. But they are functional rights, tied to the specific purpose of resource exploration and exploitation, not comprehensive territorial authority. A coastal state cannot, for example, use its continental shelf rights as a basis for exercising criminal jurisdiction over foreign nationals on the high seas or for applying its general laws to activities on the seabed that are unrelated to resource exploitation.

The application of these principles to Bangladesh requires careful attention to the distinction between sovereign rights and sovereignty in the design of the domestic legislative framework. The 2021 Amendment Act, following UNCLOS, correctly characterises Bangladesh's rights over its EEZ and continental shelf as sovereign rights for specific purposes. But the secondary legislation and administrative practice in the offshore energy sector do not always maintain this distinction with the necessary precision, creating potential legal difficulties in the application of domestic law to foreign contractors and vessels operating in Bangladesh's maritime zones.

Article 79 of UNCLOS provides that all states are entitled to lay submarine cables and pipelines on the continental shelf, subject to the coastal state's consent to the course for the laying of

pipelines and subject to the coastal state's right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution from pipelines. The delineation of submarine pipeline routes through Bangladesh's EEZ and continental shelf is a matter of significant economic and security importance, particularly in the context of potential offshore gas development, which would require pipeline infrastructure to transport gas from offshore production platforms to onshore processing and distribution facilities. The legal framework for pipeline regulation in Bangladesh's offshore zones is not comprehensively addressed in the current legislation, and this gap needs to be filled.

18.2 Environmental Obligations in Offshore Resource Exploitation: Article 194 and the Due Diligence Standard

The environmental obligations of coastal states in relation to offshore resource exploitation are among the most legally developed and practically consequential aspects of the international framework for offshore governance. UNCLOS Part XII establishes comprehensive obligations for the prevention, reduction, and control of marine pollution from all sources, including from seabed activities. Article 194(3)(c) specifically addresses the obligation to prevent pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil.

The standard of obligation imposed by Part XII is one of due diligence: states must take all necessary measures to prevent, reduce, and control pollution of the marine environment. The content of due diligence is elaborated by reference to the rules, standards, and recommended practices and procedures adopted by competent international organisations or diplomatic conferences, including the IMO, the London Convention and Protocol on dumping, and the various MARPOL annexes. The 2024 ITLOS Advisory Opinion on climate change has confirmed that the due diligence standard applies to greenhouse gas emissions as a form of marine pollution, a development that significantly expands the environmental obligations of states in relation to offshore energy activities.

For Bangladesh, the due diligence obligation in relation to offshore hydrocarbon operations has several specific components. First, it requires Bangladesh to establish and enforce environmental impact assessment requirements for offshore exploration and production activities that are consistent with international best practice. Environmental impact assessment for offshore operations should address the potential impacts of seismic surveys on marine biodiversity, including cetaceans and fish stocks, the potential impacts of drilling operations on the seabed and the water column, the potential impacts of production operations on air quality and marine water quality, and the potential impacts of oil spills or gas leaks on the marine environment and on coastal communities.

Second, the due diligence obligation requires Bangladesh to have in place adequate emergency response capabilities for offshore oil spill incidents. The international framework for oil spill preparedness and response is established by the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) of 1990, to which Bangladesh is a party. The OPRC requires parties to establish an oil spill response plan, maintain oil pollution combating

resources, and cooperate with other states in oil spill response. Bangladesh's compliance with these requirements is limited by its institutional capacity, and the development of a serious offshore petroleum sector would require significant investment in oil spill response capabilities.

Third, the due diligence obligation requires Bangladesh to establish regulatory standards for the decommissioning of offshore installations that are consistent with the IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone of 1989. When offshore oil and gas fields are exhausted, the installations used to produce them must be removed, and the removal process itself can cause significant marine environmental damage if not properly managed. Bangladesh's current regulatory framework does not address decommissioning obligations specifically, and this gap needs to be addressed as offshore development proceeds.

18.3 The Liability Regime for Offshore Environmental Damage: International Framework and Bangladesh's Domestic Gap

The international legal framework for liability for offshore petroleum operations is less comprehensive and more contested than the framework for operational regulation. Unlike the shipping sector, where the Civil Liability Convention and the Fund Convention have established a relatively well-developed system of strict liability and compulsory insurance for oil pollution damage, the offshore petroleum sector lacks a universal international liability convention. The various national liability frameworks that apply to offshore operations in major petroleum-producing jurisdictions differ significantly in their coverage, caps, and enforcement, and the absence of international harmonisation creates significant legal uncertainty for offshore operations in developing-country jurisdictions like Bangladesh.

The closest international instrument to an offshore liability convention is the Offshore Protocol to the Barcelona Convention of 1994, which applies to the Mediterranean Sea, and various regional instruments in the North Sea context. In the wider Indian Ocean context, including the Bay of Bengal, there is no regional offshore liability framework. The governance of liability for offshore environmental damage in Bangladesh's maritime zones is therefore a matter of domestic law, supplemented by general principles of international environmental liability law as developed in the Trail Smelter arbitration, the Corfu Channel case, and the ICJ's judgment in the Pulp Mills case.

Bangladesh's domestic law does not contain a specific liability regime for offshore petroleum operations. The general tort law principles of negligence and nuisance, as applied in Bangladeshi courts, provide a theoretical basis for liability claims, but they are ill-suited to the specific challenges of offshore pollution liability, including the technical complexity of proving causation in the marine environment, the potential for catastrophic damages far exceeding the assets of any individual tortfeasor, and the need for compulsory financial security to ensure that liability obligations can be met. The 2021 Amendment Act does not establish any specific liability provisions for offshore environmental damage.

The development of a comprehensive offshore liability regime for Bangladesh should be modelled on the most effective international examples. The Norwegian system, established in the

Petroleum Act of 1996 and its associated regulations, provides a rigorous framework for offshore environmental liability that requires operators to carry comprehensive insurance, establishes strict liability for pollution damage, and provides for compulsory environmental remediation. The Australian Offshore Petroleum and Greenhouse Gas Storage Act of 2006 similarly establishes strict liability for offshore pollution damage and requires financial security as a condition of operating licences. These models, while developed in the context of more resource-rich and institutionally capable states, provide the conceptual architecture that Bangladesh should adapt for its own offshore liability framework.

CHAPTER 19: DEEP SEABED MINING, THE INTERNATIONAL SEABED AUTHORITY, AND BANGLADESH'S STRATEGIC INTERESTS

19.1 The Area and its Resources: Geological Overview and Economic Potential

The Area, defined in UNCLOS Article 1 as the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, contains an extraordinary range of mineral resources whose economic potential has been increasingly recognised as the global demand for critical minerals for the energy transition, for batteries, electronics, and renewable energy technology, has created new economic incentives for deep seabed mining. The principal categories of mineral resources of the Area are: polymetallic nodules, found at depths of 4,000 to 6,000 metres across the Clarion-Clipperton Zone in the Pacific, the Indian Ocean Ridge areas, and the Peru Basin; polymetallic sulphides, formed at hydrothermal vents where mineral-rich superheated water emerges from the seabed and rapidly precipitates a rich mineral assemblage; and cobalt-rich ferromanganese crusts, found on the flanks of seamounts at depths of 800 to 2,400 metres.

The mineral wealth of the Area is staggering in absolute terms. The Clarion-Clipperton Zone alone is estimated to contain more copper, cobalt, nickel, and manganese than all known terrestrial reserves combined. Cobalt, which is an essential component of lithium-ion batteries and therefore of the global energy transition, is particularly concentrated in deep seabed mineral deposits. The growing demand for cobalt, nickel, and manganese, driven by the massive expansion of electric vehicle production and energy storage systems, has created a global critical minerals supply challenge that deep seabed mining advocates argue can only be fully addressed through the exploitation of Area resources.

Bangladesh's direct economic interest in the Area's resources is limited by its geographical position and its technological capacity. As a country located in the northern Bay of Bengal, far from the major polymetallic nodule deposits of the Pacific and the main Indian Ocean Ridge hydrothermal fields, Bangladesh has no continental shelf or EEZ in the vicinity of the richest Area mineral deposits. Its principal interest in the ISA framework is therefore as a developing state entitled to benefit-sharing from Area activities, not as a potential contractor or sponsoring state for deep seabed mining operations.

The Indian Ocean, including the areas of the ocean floor adjacent to Bangladesh's maritime zones, does contain significant deep seabed mineral resources. The Central Indian Ocean Basin

has been the focus of Indian seabed exploration, and the Indian government, through its national institute of ocean technology, has been conducting exploration of polymetallic nodules in the Basin under an ISA exploration contract. Bangladesh's maritime zone does not overlap with the Central Indian Ocean Basin mineral deposits, which lie far to the south, but the development of deep seabed mining in the Indian Ocean will have implications for Bangladesh's marine environment through changes in sediment circulation and potential disturbance of deep-sea ecosystems.

19.2 The ISA's Mining Code Negotiations: A Jurisprudential and Political Analysis

The protracted negotiations over the ISA's exploitation regulations, the Mining Code, represent one of the most significant ongoing lawmaking processes in international law, and their outcome will have lasting consequences for the governance of the global commons. The negotiations have been characterised by fundamental disagreements about the appropriate balance between economic development and environmental protection, between the rights of contractors and the obligations of sponsoring states, between the interests of developing states seeking equitable benefit-sharing and the interests of technologically advanced states and corporations seeking to commercialise deep seabed mining at scale.

The legal framework for the Mining Code negotiations is established by UNCLOS Part XI, as modified by the 1994 Implementation Agreement. The 1994 Agreement was designed to make Part XI acceptable to the United States and other developed states that had refused to sign UNCLOS in 1982 because of their objections to the original Part XI's mandatory technology transfer provisions, its limitations on production, and its enterprise-centric governance model. The 1994 Agreement substantially modified these provisions, abolishing the mandatory technology transfer requirements, eliminating the production limits, and restructuring the governance of the ISA to give developed states a greater role in its Council. The result was a Part XI that was more market-oriented and more acceptable to the United States, though the United States has still not ratified UNCLOS.

The ISA Council's negotiations on the Draft Exploitation Regulations have been proceeding since 2014, with the Council completing a second reading of the Revised Consolidated Text from Regulations 1 to 107 during its thirtieth session in 2025. The negotiations have been contentious on several key issues.

The question of the environmental threshold for mining, the level of environmental harm that would trigger regulatory intervention or require the suspension of operations, is the most fundamental unresolved issue. Some states and environmental advocates argue for a precautionary approach that would require miners to demonstrate that their operations would not cause serious harm to the marine environment before they are permitted. Others argue that the UNCLOS standard of preventing serious harm is sufficient and that a precautionary approach would effectively prevent any mining from occurring, which they regard as inconsistent with the mandate of the ISA to facilitate the development of Area resources for the benefit of mankind.

The question of benefit-sharing, which is the principal interest of developing states like Bangladesh in the ISA framework, has been addressed in the Draft Exploitation Regulations

through a proposed Financial and Economic Model that would require contractors to pay royalties, license fees, and profit-sharing arrangements to the ISA, which would then distribute the proceeds to ISA members with priority to developing countries. The specific rates and distribution mechanisms have been the subject of extensive negotiation, and the operationalisation of the Economic Planning Commission, which is mandated to advise the ISA Council on economic aspects of deep seabed activities, has been repeatedly postponed. The ISA Secretary-General's call in July 2025 for the operationalisation of the EPC before the approval of the first exploitation plan of work reflects the concern of developing states that the benefit-sharing framework must be in place before any exploitation begins.

The US unilateral action in 2025, through the Trump administration's Executive Order on deep seabed mineral resources and TMC's application to NOAA for commercial recovery permits, represents a fundamental challenge to the ISA framework. The application covered 25,160 square kilometres of the Clarion-Clipperton Zone for commercial recovery and an additional 199,895 square kilometres for exploration, areas that overlap in part with ISA exploration contracts held by Nauru Ocean Resources Inc. The ISA's response, affirmed by 170 member states, was to assert its exclusive mandate over Area mineral activities and to call on all states to refuse to recognise any claim or exercise of rights over Area minerals derived outside the UNCLOS framework. Bangladesh, as an ISA member state, has a legal obligation under Article 137(3) of UNCLOS to refuse to recognise any such claims, and its diplomatic engagement in this issue is a matter of international legal obligation as well as strategic interest.

19.3 Bangladesh's Position in the ISA: Obligations, Opportunities, and Advocacy

Bangladesh is a member of the ISA by virtue of its ratification of UNCLOS, and it participates in ISA proceedings through its diplomatic representatives. Bangladesh's formal engagement with the ISA has been relatively limited, reflecting the modest resources available for multilateral maritime diplomacy and the government's understandable focus on the more immediate priorities of domestic offshore development. However, the ISA negotiations on the Mining Code and the crisis generated by US unilateral action present both challenges and opportunities that Bangladesh should engage with more actively.

Bangladesh's primary interest in the ISA framework is in the benefit-sharing provisions that would entitle it, as a developing state, to a share of the revenues generated by deep seabed mining activities under ISA contracts. The precise magnitude of this benefit is uncertain, since it depends on the level of commercial deep seabed mining that ultimately occurs and on the distribution formula adopted by the ISA. But even modest benefit-sharing revenues could make a significant contribution to Bangladesh's development financing, and the principle that the resources of the global commons should benefit all of mankind, including the world's poorest countries, is one that Bangladesh has a strong interest in defending.

Bangladesh should align itself with the Group of 77 and China bloc of developing states in the ISA negotiations, advocating for:

A robust and operationalised benefit-sharing framework, with the Economic Planning Commission made fully functional before any exploitation contracts are approved. The EPC's

advisory role in determining the distribution of financial benefits is critical to ensuring that the common heritage principle translates into real economic gains for developing states.

A precautionary approach to the environmental standards in the Mining Code, consistent with the principles of international environmental law and with Bangladesh's own interests as a country whose marine environment is already under severe pressure from climate change, pollution, and overfishing. The marine environment of the Bay of Bengal is connected to the broader Indian Ocean ecosystem, and environmental damage from deep seabed mining in the Indian Ocean Area could affect the biodiversity and productivity of Bangladesh's own maritime zones.

Strong language in the Mining Code reaffirming the ISA's exclusive jurisdiction over Area mineral activities and the legal obligation of all states to refuse to recognise claims and exercise of rights derived from unilateral actions outside the UNCLOS framework. This is directly relevant to the current US unilateral action controversy and to Bangladesh's interest in the integrity of the international legal framework that gave it its maritime rights.

Advocacy for enhanced capacity-building provisions in the Mining Code that would assist developing states like Bangladesh in developing the technical expertise and institutional capacity to engage meaningfully with deep seabed resource governance, including participation in ISA contractor activities and in the environmental monitoring and scientific research programmes associated with deep seabed mining.

19.4 The Common Heritage Principle in the Context of Critical Minerals and the Energy Transition

The intersection of the common heritage of mankind principle with the global demand for critical minerals for the energy transition raises some of the most philosophically interesting and practically consequential questions in contemporary international law. The metals contained in deep seabed polymetallic nodules, including cobalt, nickel, manganese, and copper, are essential for the production of batteries for electric vehicles and energy storage systems, wind turbines, solar panels, and other technologies required for the decarbonisation of the global economy. The International Energy Agency has projected that the demand for these critical minerals will increase by several hundred percent by 2050 if the goals of the Paris Agreement are to be met.

This creates a profound tension. On one hand, the exploitation of deep seabed mineral resources is necessary to supply the critical minerals required for the energy transition, which is itself necessary to address the climate crisis and to protect the marine environment from the worst effects of climate change, including those documented in the ITLOS Advisory Opinion of 2024. On the other hand, deep seabed mining causes significant and potentially irreversible damage to the marine ecosystem of the deep ocean, which is the least understood and perhaps the most ecologically significant biome on earth. The deep-sea floor contains unique and highly evolved ecosystems of extraordinary biodiversity, and the disturbance caused by mining machinery would destroy habitats that have developed over millions of years.

The philosophical resolution of this tension requires a framework that takes seriously both the imperative of the energy transition and the obligation to protect the deep sea environment. The

common heritage principle provides a useful starting point: it requires that the exploitation of Area resources be conducted for the benefit of mankind as a whole, including future generations. This requirement implies a sustainability constraint, meaning that exploitation must not cause damage to the deep sea ecosystem that would compromise the interests of future generations in the biodiversity and ecological integrity of the ocean. It also implies a distributive constraint, meaning that the benefits of exploitation must flow equitably to all of humanity, not merely to the technologically advanced states and corporations that have the capacity to mine the deep seabed.

Bangladesh, as a developing state with a strong interest in the climate-compatible development of global ocean resources, is well positioned to advocate for a framework that reconciles the energy transition imperative with the environmental protection and distributive justice obligations of the common heritage principle. This advocacy should inform Bangladesh's engagement with the ISA Mining Code negotiations, its participation in the BBNJ Agreement implementation, and its broader contribution to international maritime governance.

CHAPTER 20: OFFSHORE RENEWABLE ENERGY AND THE LEGAL FRAMEWORK FOR MARITIME ENERGY TRANSITION

20.1 The Emerging Legal Framework for Offshore Renewable Energy

Offshore renewable energy, including offshore wind, tidal energy, ocean thermal energy conversion, and marine current energy, represents a rapidly growing sector of the maritime economy with significant implications for the law of the sea. The UNCLOS framework, which was negotiated in the 1970s before offshore renewable energy was a commercially significant activity, does not address the governance of offshore energy installations specifically, though its provisions on artificial islands and installations in the EEZ, set out in Article 60, and on the protection of the marine environment in Part XII, provide the legal foundation for the governance of offshore renewable energy installations.

Article 60 of UNCLOS grants the coastal state the exclusive right to construct and to authorise and regulate the construction, operation and use of artificial islands, installations, and structures in its EEZ. This provision has been interpreted to cover offshore renewable energy installations, though some commentators have debated whether an energy installation that is not an artificial island but is permanently fixed to the seabed falls within the strict meaning of the provision. The better view, supported by state practice and the preparatory work of UNCLOS, is that the right to authorise and regulate installations in Article 60 extends to all manner of fixed structures, including offshore wind turbines, wave energy converters, and tidal energy devices.

The legal framework for the safety zones around offshore installations, established in Article 60(4) to (6) of UNCLOS, is also relevant to offshore renewable energy governance. The coastal state may establish safety zones around offshore installations, and all states must respect these safety zones and comply with generally accepted international standards regarding navigation in their vicinity. The breadth of the safety zone must be reasonably related to the nature and

function of the installation, subject to a maximum of 500 metres measured from the outer edge of the installation.

The rapid development of offshore wind energy in Europe, particularly in the United Kingdom, Denmark, Germany, and the Netherlands, has generated a body of domestic regulatory experience and international best practice that is directly relevant to the development of offshore renewable energy in Bangladesh's maritime zones. The European offshore wind regulatory frameworks have evolved significantly over the past two decades, from largely ad hoc permitting systems to comprehensive spatial planning frameworks that integrate offshore energy development with environmental protection, fisheries management, navigation safety, and other maritime uses.

20.2 Bangladesh's Offshore Renewable Energy Potential

Bangladesh's offshore renewable energy potential has been the subject of growing interest and research, though it remains largely unquantified. The Bay of Bengal's wind regime, while not as consistent or as energetic as the North Sea's, does support offshore wind development at commercially viable wind speeds in certain areas of Bangladesh's EEZ. The potential for tidal energy in the Meghna estuary and the intertidal zones of the Sundarbans coast is significant, though the technical challenges of tidal energy conversion in a high-sediment environment are considerable. Ocean thermal energy conversion, which exploits the temperature differential between the warm surface waters and the cool deep waters of the tropical ocean, is technically feasible in the southern portions of Bangladesh's EEZ where the water depths are sufficient.

The most immediately promising form of offshore renewable energy for Bangladesh, given the current state of technology and economics, is offshore wind. The Government of Bangladesh's Power System Master Plan, updated in 2023, includes offshore wind as a component of the long-term electricity generation mix, with aspirational targets for offshore wind capacity by 2040. However, the regulatory framework for offshore wind development in Bangladesh is entirely absent. There is no offshore wind licensing regime, no environmental assessment framework specific to offshore wind, no grid connection framework for offshore wind generation, and no mechanism for the allocation of offshore wind development rights in Bangladesh's EEZ.

The development of offshore wind in Bangladesh's EEZ would involve a complex regulatory and legal process that the current framework is not equipped to handle. The coastal state's right to authorise offshore wind installations under Article 60 of UNCLOS must be exercised through domestic regulatory processes that are fair, transparent, technically sound, and consistent with Bangladesh's environmental obligations under Part XII of UNCLOS. A dedicated offshore renewable energy regulatory framework, perhaps modelled on the UK's Offshore Energy Strategic Environmental Assessment process, should be developed as a priority element of the maritime law reform agenda.

20.3 Marine Spatial Planning as the Integration Framework

The multiple uses of Bangladesh's maritime zones, including fisheries, offshore petroleum, offshore renewable energy, submarine cables, maritime transport, and marine protected areas,

cannot be effectively managed through sector-specific regulatory frameworks alone. The interactions among these uses, both their synergies and their conflicts, require an integrated management approach that can only be provided through a marine spatial planning framework.

Marine spatial planning, as a concept and as a regulatory tool, has been developed primarily in Europe and North America over the past two decades, but it is increasingly recognised internationally as the most effective approach to integrated maritime governance. The European Union's Maritime Spatial Planning Directive of 2014 requires member states to develop maritime spatial plans that identify the spatial distribution of existing and potential future activities and uses in marine waters. The BBNJ Agreement includes provisions on area-based management tools in areas beyond national jurisdiction that draw on the marine spatial planning concept. And the ISA's Regional Environmental Management Plans for deep seabed mining areas represent a form of spatial planning applied to the Area.

Bangladesh has no marine spatial planning framework or legislation. The governance of Bangladesh's maritime zones is managed through sector-specific instruments that do not systematically consider the interactions among different uses or the cumulative environmental impacts of multiple activities. The development of a national marine spatial plan for Bangladesh's EEZ and continental shelf, covering the allocation of space among fisheries, petroleum development, renewable energy, conservation, and other uses, and providing the legal framework for conflict resolution among these uses, is an essential element of the comprehensive maritime governance reform that this commentary advocates.

The legal basis for marine spatial planning in Bangladesh's domestic law would need to be established through legislation, either as a specific Marine Spatial Planning Act or as a comprehensive Blue Economy Governance Act that incorporates marine spatial planning as one of its core elements. The institutional framework for marine spatial planning would require the coordination of multiple government ministries and agencies, and it would benefit enormously from the establishment of the integrated maritime governance authority proposed elsewhere in this commentary.

CHAPTER 21: THE PRODUCTION SHARING CONTRACT REGIME: A COMPREHENSIVE LEGAL CRITIQUE AND REFORM AGENDA

21.1 The International Law of Natural Resource Contracts

The legal governance of natural resource contracts, including Production Sharing Contracts, involves an intricate intersection of international law, contract law, and constitutional law whose complexity is not always appreciated in policy discussions. The international dimensions include the obligations of states under customary international law regarding the treatment of foreign investment, the standards established by bilateral investment treaties, the evolving principles of international investment law as developed by ICSID and other investment arbitration tribunals, and the principles of international environmental law applicable to offshore resource exploitation.

The customary international law of foreign investment requires states to treat foreign investors and their investments in accordance with the minimum standard of treatment, which at a minimum prohibits confiscation without adequate compensation and denial of justice in domestic legal proceedings. Beyond this minimum standard, many bilateral investment treaties between states impose higher standards of treatment, including fair and equitable treatment, full protection and security, and protection against expropriation, direct or indirect. Bangladesh has signed bilateral investment treaties with many of the countries from which international oil companies originate, including the United States, the United Kingdom, Germany, and various Asian countries, and these treaties impose legal obligations on Bangladesh in its treatment of foreign oil company investments in its offshore sector.

The standard of fair and equitable treatment, as interpreted by investment arbitration tribunals, has been particularly significant in the natural resource contract context. Tribunals have held that this standard requires states to honour the legitimate expectations of foreign investors created by the regulatory environment at the time of investment, to maintain a stable and transparent regulatory framework, and to refrain from arbitrary or discriminatory conduct in their treatment of investors. A sudden and unreasonable change in the terms of a PSC, or a failure to process permit applications in a timely and transparent manner, could potentially constitute a violation of the fair and equitable treatment standard under applicable investment treaties.

The relationship between international investment law and the host state's right to regulate in the public interest, including for environmental protection, is one of the most contested issues in contemporary international law. The increasing inclusion of environmental exceptions in bilateral investment treaties, and the development of interpretive principles that balance investor protection with the regulatory autonomy of host states, reflects a growing recognition that the traditional investment law framework was insufficiently attentive to the legitimate public interest dimensions of resource governance. Bangladesh's investment treaty practice in relation to the offshore oil and gas sector should be reviewed to ensure that the treaties in force provide adequate space for the exercise of domestic regulatory authority, including for environmental protection, without creating disproportionate investor protection obligations.

21.2 Stabilisation Clauses in PSCs: Legal Analysis and Bangladesh's Experience

One of the most legally significant and controversially debated elements of natural resource contracts is the stabilisation clause, a provision that commits the host state government to maintain the legal and fiscal framework applicable to the contractor at the time of the contract, insulating the contractor from the application of future legislation. Stabilisation clauses come in several forms, ranging from full freezing clauses that purport to exempt the contractor from any changes in the law applicable to it, to economic equilibrium clauses that allow changes in law but require the host state to compensate the contractor for any resulting economic loss.

Bangladesh's PSC history has included stabilisation provisions of various kinds. The PSC 2023 contains provisions that protect the contractor from changes in certain fiscal provisions, reflecting the standard commercial expectation that the fiscal terms negotiated at the time of contract award will not be unilaterally changed during the life of the project. These stabilisation provisions are commercially understandable and necessary to attract investment in long-horizon

projects like deep-water petroleum development. But they raise significant legal and governance concerns.

From the perspective of international law, stabilisation clauses that purport to freeze environmental standards are incompatible with the state's obligations under UNCLOS Part XII and under customary international environmental law. A state cannot contract away its obligation to protect the marine environment, because that obligation is owed not to the contractor but to the international community, to its own population, and to future generations. The ITLOS Advisory Opinion of 2024 on climate change reinforces this principle, confirming that states have ongoing and evolving obligations to prevent marine pollution that cannot be pre-empted by private contract.

The conflict between the contractor's legitimate interest in regulatory stability and the state's obligation to continuously improve its environmental standards is one that sophisticated PSC drafting must address explicitly. The most appropriate legal mechanism is the environmental equilibrium clause, which provides that changes in environmental regulation will apply to the contractor but that the state will compensate the contractor for any resulting net economic loss, thereby maintaining the economic balance of the contract while allowing the state to fulfil its environmental obligations. Bangladesh's PSC 2023 does not contain such a provision, and this is a gap that a reformed PSC model should address.

21.3 State-Contractor Dispute Resolution: Arbitration, Investment Treaties, and Domestic Courts

The resolution of disputes between the government of Bangladesh, including Petrobangla, and foreign oil company contractors is governed by a complex interplay of the arbitration provisions in individual PSCs, the investor-state dispute settlement mechanisms of applicable bilateral investment treaties, and the jurisdiction of Bangladeshi domestic courts. This complex dispute resolution landscape creates significant legal uncertainty and has the potential to generate costly and lengthy international arbitration proceedings against Bangladesh.

The typical PSC for offshore operations in Bangladesh contains an arbitration clause providing for international commercial arbitration, usually under the rules of the International Chamber of Commerce or the Singapore International Arbitration Centre, in a neutral jurisdiction. This is a commercially standard and generally appropriate provision for disputes arising under the contract itself. However, some categories of dispute may also be subject to investor-state arbitration under applicable bilateral investment treaties, which typically provide for arbitration under ICSID or UNCITRAL rules. The availability of both contractual and treaty arbitration for the same underlying dispute creates the risk of parallel proceedings, inconsistent awards, and excessive litigation costs.

Bangladesh's experience with international commercial arbitration in the energy sector, while limited, includes several proceedings arising from disputes with offshore contractors. The legal and financial costs of these proceedings have been significant, and they have sometimes generated outcomes that were damaging to Bangladesh's interests. A reformed regulatory framework should include provisions designed to reduce the risk of costly arbitration, including

clear and predictable dispute resolution procedures, adequate mechanisms for consultation and negotiation before formal disputes arise, and treaty renegotiation where existing BIT provisions create excessive litigation risk.

The role of Bangladesh's domestic courts in PSC dispute resolution is also a significant issue. The 1985 Ordinance does not clearly address the jurisdiction of domestic courts over PSC disputes, and the arbitration clauses in PSCs typically exclude domestic court jurisdiction over the merits of disputes arising under the contract. This exclusion of domestic court jurisdiction is commercially standard and legally defensible, but it creates a democratic accountability gap: decisions about the exploitation of Bangladesh's sovereign resources are effectively removed from the scrutiny of Bangladesh's own judiciary.

21.4 Transparency, Anti-Corruption, and the EITI Framework

The governance of natural resource contracts is inseparably linked to the problem of corruption. Wherever large sums of money flow from the exploitation of sovereign natural resources, the risk of corruption in the allocation of resource rights, the negotiation of contract terms, and the administration of revenue flows is significant. For developing country jurisdictions like Bangladesh, where governance institutions are relatively weak and transparency norms are not always rigorously enforced, the corruption risk in the offshore petroleum sector is a serious concern that must be explicitly addressed in the legal framework.

The Extractive Industries Transparency Initiative (EITI), launched in 2002 and now comprising fifty-seven implementing countries, provides a framework for the public disclosure of revenues paid by extractive industry companies to governments and revenues received by governments from those companies, with the aim of reducing corruption and improving governance in the extractive sectors. Bangladesh is not currently an EITI implementing country. The accession of Bangladesh to the EITI framework and the implementation of EITI reporting standards for its offshore petroleum sector would be an important step toward greater transparency and accountability in offshore resource governance.

The legal framework for the transparency of PSC terms is a related but distinct issue. In many resource-rich countries, the terms of individual PSCs are treated as confidential commercial information, not subject to public disclosure. This practice is increasingly criticised, on the grounds that contracts for the exploitation of sovereign resources are a matter of public interest and that their confidentiality inhibits democratic accountability and facilitates corruption. A reformed legal framework for Bangladesh's offshore petroleum sector should require the disclosure of the essential terms of all PSCs, including the fiscal provisions, the environmental obligations, and the contractual dispute resolution mechanisms, while protecting genuinely confidential commercial information such as detailed geological and technical data.

CHAPTER 22: OFFSHORE SAFETY REGULATION AND THE LESSONS OF GLOBAL DISASTERS

22.1 The Global Framework for Offshore Safety: IMO, ILO, and Beyond

The safety regulation of offshore petroleum installations is governed at the international level by a combination of IMO instruments, ILO conventions, and non-binding but influential guidelines developed by industry associations and national regulatory bodies. The IMO Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU Code), adopted in 2009 and revised subsequently, provides technical safety standards for mobile drilling units used in offshore exploration. The ILO Work in Fishing Convention No. 188, while primarily focused on fishing vessels, contains principles relevant to the welfare of workers on offshore support vessels. The various MARPOL annexes address the pollution prevention obligations of offshore installations.

However, the international framework for offshore safety is less comprehensive and less systematically enforced than the framework for ship safety. While MARPOL and the SOLAS Convention create clear international standards for vessel operations, with port state control providing an important enforcement mechanism, there is no equivalent international system for the regulation of fixed offshore installations. The safety of fixed platforms is primarily a matter of domestic regulation by the flag state and the host state, and the standards adopted by different states vary significantly.

The Deepwater Horizon disaster of 2010, in which an explosion on a BP-operated drilling unit in the Gulf of Mexico killed eleven workers and caused the largest marine oil spill in United States history, releasing approximately 4.9 million barrels of crude oil into the Gulf over eighty-seven days, exposed fundamental weaknesses in offshore safety regulation and generated far-reaching reforms in the United States and more broadly. The catastrophe demonstrated that the combination of financial pressures to maintain drilling schedules, inadequate regulatory oversight, insufficient safety culture, and inadequate blowout prevention technology created catastrophic risks that were not adequately managed by the existing regulatory framework.

The subsequent reforms in the United States, including the creation of the Bureau of Safety and Environmental Enforcement (BSEE) as a dedicated offshore safety regulator separate from the Bureau of Ocean Energy Management, provided important lessons about the institutional design of offshore safety regulation. The Norwegian system, which had maintained a much stronger safety culture and avoided comparable disasters, demonstrated that the combination of an independent safety regulator, a strong tripartite system of worker participation in safety management, a well-developed liability regime with unlimited operator liability, and a culture of learning from near-misses was more effective than the compliance-based US system that preceded the Deepwater Horizon reforms.

22.2 Bangladesh's Offshore Safety Framework: A Regulatory Vacuum

Bangladesh currently has no specific offshore petroleum safety regulatory framework. The general provisions on occupational safety in the Labour Act of 2006, the environmental regulation provisions of the Environment Conservation Act of 1995, and the general power of Petrobangla under the 1985 Ordinance to include safety conditions in PSCs do not constitute an adequate safety regulatory framework for offshore petroleum operations.

The development of a specific offshore petroleum safety regulatory framework for Bangladesh, prior to the commencement of any commercial offshore drilling, is an absolute legal, ethical, and strategic priority. From a legal perspective, the absence of a safety regulatory framework means that Bangladesh would not be in compliance with the standards recommended by IMO instruments and OPRC requirements if an offshore accident occurred. From an ethical perspective, workers on offshore installations in Bangladesh's waters deserve the same protection from industrial hazards as workers in any other jurisdiction, and the absence of a specific safety framework leaves them without adequate legal protection. From a strategic perspective, the absence of safety regulation will deter reputable international oil companies from investing in Bangladesh's offshore blocks, since companies with strong internal safety cultures and external ESG commitments require a host state regulatory framework that meets internationally recognised safety standards.

The elements of a comprehensive offshore safety regulatory framework for Bangladesh should include: a dedicated offshore petroleum safety regulator with technical competence, operational independence, and adequate resourcing; safety case requirements for all offshore operations, modelled on the UK Safety Case Regulations that require operators to demonstrate the adequacy of their safety management systems; well control and blowout prevention standards; equipment inspection and certification requirements; emergency response planning requirements, including provision for the evacuation of offshore workers and the containment of oil spills; accident reporting and investigation requirements; and worker rights provisions, including the right to refuse unsafe work and the right to participate in safety management through elected safety representatives.

22.3 Environmental Impact Assessment for Offshore Operations: International Standards and Bangladesh's Legal Gap

Environmental impact assessment, the systematic process of identifying and evaluating the environmental consequences of proposed projects before decisions are made about their approval, is a fundamental tool of environmental governance that is required by international law for major projects with potentially significant environmental impacts. UNCLOS Article 206 requires states, when they have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, to assess as far as practicable the potential effects of such activities on the marine environment. The 2024 ITLOS Advisory Opinion has confirmed that the duty to conduct environmental impact assessment under Article 206 is a due diligence obligation of all states parties to UNCLOS.

The specific content of the environmental impact assessment obligation for offshore petroleum operations is elaborated by various non-binding but authoritative instruments, including the UNEP Environmental Impact Assessment Training Resource Manual, the guidelines adopted by regional seas conventions, and the practices of major offshore petroleum regulatory regimes. A comprehensive EIA for offshore petroleum operations should address: the potential impacts of seismic surveys on marine mammals, fish, and other organisms sensitive to sound; the potential impacts of drilling on the seabed habitat and water quality; the potential impacts of production operations on air quality, water quality, and marine biodiversity; the potential impacts of

accidental oil spills, including the scale of potential spills, their likely trajectory, and their impacts on the marine environment and coastal communities; and the cumulative impacts of offshore operations in the context of other anthropogenic pressures on Bangladesh's marine environment.

Bangladesh's current legal framework does not require a specific environmental impact assessment for offshore petroleum operations. The Environmental Conservation Act of 1995 and the Environmental Conservation Rules of 1997 establish a general EIA requirement for major development projects, but the rules do not specifically address offshore petroleum operations, and the Department of Environment does not have the technical capacity to conduct an adequate review of a complex offshore petroleum EIA. This regulatory gap must be addressed as a matter of urgency before any offshore drilling commences, both because it is required by international law and because the consequences of an inadequately assessed offshore oil spill in the Bay of Bengal would be catastrophic for Bangladesh's marine environment and coastal communities.

CHAPTER 23: MARINE GEOLOGY, RESOURCE ASSESSMENT, AND THE LEGAL DIMENSIONS OF HYDROCARBON POTENTIAL

23.1 The Bengal Fan: A Geological and Legal Primer

The Bengal Fan is one of the most important geological formations in the world for understanding Bangladesh's offshore hydrocarbon potential, and it deserves detailed treatment here because the legal governance of offshore resources cannot be intelligently designed without some understanding of the geological context in which those resources occur.

The Bengal Fan is a submarine sedimentary deposit formed by the accumulation of sediment transported from the Himalayan mountain range by the Ganges, Brahmaputra, and Meghna rivers over the past fifty million years. The fan extends from the shallow coastal waters of Bangladesh and the Indian state of West Bengal southward across the Bay of Bengal for more than 2,000 kilometres, covering an area of approximately 3,000,000 square kilometres and reaching a maximum thickness of more than twenty kilometres. It is the largest submarine fan in the world, containing a volume of sediment that has been estimated at more than twelve million cubic kilometres.

The geological characteristics of the Bengal Fan that are relevant to hydrocarbon potential include its enormous thickness of organic-rich sediment, the presence of structural traps formed by folding and faulting within the fan sediments, the existence of working petroleum systems confirmed by the discovery of gas in shallow waters of the Sangu field, and the geological analogy with other productive deep-water fans including the Niger Delta, the Gulf of Mexico, and the Nile Delta. Professor Badrul Imam of Dhaka University, one of Bangladesh's leading geologists, has argued that the geological evidence strongly suggests the presence of significant hydrocarbon accumulations in the deep-water portions of the Bengal Fan, within Bangladesh's EEZ, particularly in the series of fold-belt structures that have been identified in the 2023 TGS seismic survey.

The legal implications of this geological understanding are significant. The Bengal Fan underlies both Bangladesh's EEZ and its potential extended continental shelf beyond 200 nautical miles, the latter being the subject of Bangladesh's pending CLCS submission. The deep-water portions of the fan, which may contain the largest hydrocarbon accumulations, are in water depths of 2,000 to 4,000 metres, at the outer limit of current deepwater drilling technology and requiring significant capital investment and technical expertise to explore and develop. The successful development of Bangladesh's deep-water hydrocarbon potential would require international partnerships with companies that have the technology and capital to operate in these conditions, under a legal framework that provides both adequate protection of Bangladesh's sovereign rights and adequate incentives for investment.

The possibility of transboundary hydrocarbon deposits, extending across the maritime boundary between Bangladesh and India or between Bangladesh and Myanmar, adds another layer of legal complexity. UNCLOS Article 83(3) requires states whose EEZs or continental shelves overlap to make every effort to enter into provisional arrangements and, in the spirit of understanding, not to jeopardise or hamper the reaching of the final agreement during the interim period. For transboundary oil and gas deposits, the practical implication is the principle of unitisation, the treatment of a transboundary deposit as a single unit to be developed jointly by the states concerned under an agreed arrangement. Bangladesh's PSC regime does not currently address the unitisation of transboundary deposits, and the bilateral agreements with India and Myanmar do not contain specific provisions for joint development of transboundary resources. This is a gap that could create significant legal disputes if commercially significant transboundary deposits are discovered.

23.2 The Grey Area Problem Revisited: Hydrocarbon Implications

The grey area created by the PCA award of 2014 in the Bay of Bengal Maritime Boundary Arbitration between Bangladesh and India presents particular complications for offshore hydrocarbon development that have not yet been adequately addressed in either the domestic legal framework or the bilateral relationship between Bangladesh and India. As noted in Part One and analysed in detail above, the grey area is a zone where Bangladesh has continental shelf rights in the seabed under a particular boundary line, while India has EEZ rights in the superjacent water column under a different boundary line.

The hydrocarbon implications of this grey area are potentially severe. If oil or gas is discovered in the seabed of the grey area, Bangladesh would have sovereign rights over those resources under Article 77 of UNCLOS, as its continental shelf rights extend to the seabed of the grey area. But India would have rights over the water column above the grey area under its EEZ boundary, which would include jurisdiction over activities in the water column, such as the installation of drilling equipment and the movement of production platforms, that are necessary for the exploitation of seabed resources. The practical exploitation of hydrocarbon resources in the grey area would therefore require cooperation between Bangladesh and India, either through a bilateral agreement specifically addressing the grey area or through ad hoc arrangements for specific development projects.

The absence of any formal bilateral framework for the governance of the grey area is a significant legal gap. Bangladesh and India have had limited diplomatic engagement on this issue since the PCA award, and the complexity of the grey area problem has made it a low priority for bilateral negotiations that have many other items on their agenda. But the commercial development of offshore resources in the grey area, if it occurs, will create legal and practical problems that cannot be resolved without a formal bilateral framework. Bangladesh should prioritise the negotiation of a grey area management agreement with India, modelled on similar agreements between states in other parts of the world where grey areas have been created by maritime boundary delimitation.

CHAPTER 24: THE GOVERNANCE OF OFFSHORE HYDROCARBONS AND THE CLIMATE TRANSITION

24.1 The Paradox of Offshore Gas Development in the Era of Climate Change

Bangladesh faces a profound paradox in relation to its offshore hydrocarbon development ambitions. On one hand, Bangladesh is one of the countries most vulnerable to the impacts of climate change, with its low-lying coastal geography, its dependence on monsoon agriculture, and its exposure to rising sea levels, increased cyclonic intensity, and saline intrusion making it a front-line state in the global climate crisis. The 2024 ITLOS Advisory Opinion on climate change has confirmed that the international community has legal obligations to reduce greenhouse gas emissions, and Bangladesh has been one of the most vocal advocates of ambitious climate action in the international negotiations. On the other hand, Bangladesh faces a severe domestic energy crisis, with gas reserves from its onshore fields depleting rapidly, LNG imports proving expensive and strategically risky, and the offshore gas potential of the Bengal Fan offering the most plausible route to domestic energy security at affordable cost.

This paradox is not unique to Bangladesh; many developing countries face similar tensions between their development needs, which require access to affordable energy including fossil fuels, and their climate commitments, which require a rapid transition away from fossil fuel consumption. But the tension is particularly acute for Bangladesh because its vulnerability to climate change is so extreme and its offshore gas potential is so significant. A country that has been one of the most effective advocates for ambitious climate action in the international negotiations is now contemplating the large-scale development of a new offshore gas production industry that would lock in fossil fuel dependency for decades.

The resolution of this paradox requires a sophisticated legal and policy framework that can hold both imperatives simultaneously. Offshore gas development in Bangladesh's EEZ can potentially be justified, from a climate perspective, if it displaces higher-carbon alternatives, particularly coal, which is currently being imported in large quantities as Bangladesh's gas shortage drives power generation toward coal-fired plants. Gas is a significantly lower-carbon energy source than coal, and if offshore gas development in Bangladesh displaces coal imports, it could actually reduce Bangladesh's greenhouse gas emissions in the medium term, even while adding new emissions from gas combustion. This climate arithmetic, however, depends critically on

whether the offshore gas actually displaces coal rather than simply adding to total energy consumption.

The legal framework for offshore gas development in Bangladesh should therefore include explicit climate provisions. These could include: a carbon pricing mechanism applicable to offshore gas production that ensures producers internalise some of the social cost of carbon; requirements for methane leak detection and control at offshore platforms, since methane leakage from gas production is a particularly potent contributor to climate forcing; requirements for carbon capture and storage from offshore production, where technically feasible; and a sunset provision that ties the duration of offshore gas production licences to progress in the development of renewable energy alternatives, ensuring that offshore gas development is understood as a transitional rather than a permanent element of Bangladesh's energy mix.

24.2 Offshore Carbon Capture and Storage: Legal Framework and Prospects

Carbon capture and storage (CCS), the process of capturing carbon dioxide from power generation or industrial processes and permanently storing it underground, has been identified as a potentially important element of the global response to climate change. Offshore geological formations, including depleted oil and gas fields and deep saline aquifers in the seabed, offer large-scale storage capacity for captured CO2. UNCLOS Article 194(3)(c), as interpreted in the context of offshore resource governance, provides a legal basis for the regulation of offshore CCS activities, and the London Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter was amended in 2006 to explicitly permit the sub-seabed geological storage of carbon dioxide streams.

Bangladesh's depleted offshore gas fields, particularly the Sangu field which has already been exhausted, could potentially serve as storage sites for CO2. The legal framework for offshore CCS in Bangladesh's maritime zones does not currently exist. The development of such a framework would require amendments to the existing petroleum legislation to address CCS authorisation, environmental regulation, long-term monitoring obligations, and liability for CO2 leakage. It would also require Bangladesh's adherence to the 2006 amendment to the London Protocol, or the development of a domestic legal framework consistent with its principles.

The practical prospects for offshore CCS in Bangladesh in the near to medium term are limited, given the absence of large-scale CO2 capture facilities onshore and the significant capital costs of CCS technology. But the legal framework should be established in anticipation of future demand, particularly as industrial decarbonisation creates growing volumes of captured CO2 that require permanent disposal. Bangladesh's participation in the South Asian regional discussions on CCS, which are at an early stage, could benefit from the establishment of a domestic legal framework that positions Bangladesh as a potential CCS host country.

CHAPTER 25: INSTITUTIONAL REFORM FOR OFFSHORE RESOURCE GOVERNANCE

25.1 The Case for an Integrated Offshore Petroleum Regulatory Authority

The fundamental institutional reform required to provide Bangladesh with an offshore petroleum governance capacity adequate to its resources and its obligations is the establishment of an independent, specialised, and technically competent Offshore Petroleum Regulatory Authority (OPRA). This recommendation, which has been advanced in various forms in the academic literature and in policy discussions, is based on the universal recognition in comparative petroleum governance that effective regulation of offshore petroleum activities requires an institution specifically dedicated to that function, with the technical expertise, the operational independence, and the regulatory authority to fulfil it effectively.

The current arrangement, under which Petrobangla combines commercial, contractual, and quasi-regulatory functions without any institutional separation between these roles, is inadequate for a serious offshore petroleum governance framework for the reasons discussed above: the conflicts of interest between commercial and regulatory functions, the absence of specialised regulatory expertise, the lack of institutional independence from political direction, and the inadequate resource base for effective regulation. The Deepwater Horizon disaster demonstrated the catastrophic consequences of this kind of institutional design, and it provided the impetus for the major restructuring of offshore petroleum governance in the United States and other jurisdictions.

The proposed OPRA should have the following institutional characteristics. It should be established by statute, with a mandate covering all aspects of offshore petroleum regulation including the assessment and award of exploration licences, the technical review and approval of drilling programmes, environmental impact assessment review, safety case assessment, inspection and enforcement, accident investigation, and the administration of decommissioning obligations. It should be governed by an independent board, with members who have relevant expertise in petroleum engineering, environmental science, safety regulation, and law, and who are appointed through a transparent process with fixed terms and protections against arbitrary removal. It should have the regulatory authority to issue, modify, and revoke petroleum licences, to impose conditions on operations, to require operators to cease operations in the interest of safety or environmental protection, and to impose administrative penalties for violations of its regulations.

The OPRA should be funded through a combination of government appropriation and licence fees and regulatory charges levied on petroleum operators, ensuring that the cost of regulation is borne in part by those who benefit from the regulatory framework. Its budget and accounts should be publicly disclosed, and it should be subject to parliamentary oversight through a designated committee. Its regulatory decisions should be subject to appeal to an independent administrative tribunal, providing a check on its authority while maintaining the effectiveness of its enforcement powers.

The separation of OPRA from Petrobangla would allow Petrobangla to fulfil its legitimate commercial function, including its role as a participating party in PSCs, without the conflict of interest created by its current quasi-regulatory role. Petrobangla would remain as the commercial state enterprise responsible for petroleum operations, for the administration of PSCs on behalf of

the government, and for managing the state's participation in offshore production. But it would be regulated by OPRA in the same way as any other operator, subject to the same safety and environmental standards, with no preferential treatment by virtue of its state enterprise status.

25.2 The National Offshore Hydrocarbon Revenue Fund: A Legal Framework for Resource Revenue Management

The governance of revenues from offshore hydrocarbon development is as important as the governance of the development process itself. The resource curse literature demonstrates that the mismanagement of resource revenues, through corruption, fiscal mismanagement, or the failure to invest resource windfalls in diversified economic development, is one of the principal mechanisms through which natural resource wealth undermines long-term development. The legal framework for offshore resource revenue management in Bangladesh must be designed from the outset to avoid these pitfalls.

Several models of resource revenue management have been developed and implemented in resource-rich countries, with varying degrees of success. Norway's Government Pension Fund Global, established in 1990, is widely regarded as the most successful sovereign wealth fund, having accumulated over USD 1.5 trillion in assets by 2024 by saving the majority of Norway's petroleum revenues for future generations, investing them in a globally diversified portfolio, and spending only the real return on the fund to supplement the regular government budget. The legal framework for the Norwegian fund, established in the Government Pension Fund Act, is characterised by strict rules about the level of annual withdrawals, a clear investment mandate focused on ethical and sustainable investments, and strong institutional independence and transparency.

Bangladesh's offshore petroleum revenues, if the development of its offshore resources eventually proceeds on the scale suggested by the geological evidence, could be substantial. The legal framework for their management should be established in advance of significant production, to prevent the appropriation of resource revenues by narrow interests before proper governance mechanisms are in place. A National Offshore Hydrocarbon Revenue Fund, established by statute, should receive all royalties, profit oil payments, and other government take from offshore petroleum operations, and should govern the use of those revenues according to transparent rules that balance the competing claims of current development needs and inter-generational resource conservation.

The legal framework of the Fund should specify: the proportion of revenues to be transferred to the Fund as opposed to the general budget; the investment mandate of the Fund, including the asset classes in which it may invest and the ESG criteria applicable to its investments; the rules governing withdrawals from the Fund, including maximum annual withdrawal amounts and the purposes for which withdrawals may be made; the governance of the Fund, including the composition and appointment of its board, its reporting and audit obligations, and its parliamentary oversight arrangements; and the legal protection of Fund assets from appropriation for political purposes. The establishment of such a Fund, even before significant offshore revenues begin to flow, would signal Bangladesh's commitment to responsible resource

governance and enhance the credibility of its offshore development strategy to international investors.

25.3 The Parliamentary and Civil Society Dimensions of Offshore Governance

No reform of the institutional framework for offshore petroleum governance can succeed in the long term without adequate parliamentary oversight and meaningful civil society participation. The governance of resources that belong to the nation must ultimately be accountable to the nation's democratic institutions and to its civil society, and the design of the regulatory framework must ensure that this accountability is real and not merely formal.

Parliamentary oversight of offshore petroleum governance in Bangladesh is currently inadequate. The relevant parliamentary committee, the Parliamentary Standing Committee on the Ministry of Power, Energy and Mineral Resources, does not have the technical expertise or the resources to conduct meaningful oversight of complex offshore petroleum operations, PSC negotiations, or regulatory decisions. Strengthening parliamentary oversight would require: investment in the technical capacity of the committee secretariat, possibly through the provision of expert advisers with offshore petroleum expertise; requirements for regular reporting by Petrobangla and the proposed OPRA to the parliamentary committee, including reports on PSC negotiations, exploration results, environmental incidents, and regulatory decisions; public committee hearings on major policy and regulatory decisions, at which officials, industry representatives, and civil society organisations can give evidence; and access by the committee to classified technical and commercial information under appropriate confidentiality arrangements.

Civil society participation in offshore petroleum governance is even more limited than parliamentary oversight. Non-governmental organisations, academic institutions, fishing community organisations, and environmental groups have virtually no formal role in the licensing, permitting, or regulatory processes for offshore petroleum operations. This exclusion is both a governance failure and a violation of the principle, increasingly recognised in international environmental law, that effective environmental governance requires public participation in decision-making. The Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, adopted by the UNECE in 1998, establishes a comprehensive framework for public participation in environmental decision-making that provides a model, even for non-parties like Bangladesh, for the design of participatory governance mechanisms.

A reformed offshore petroleum governance framework for Bangladesh should establish formal mechanisms for civil society participation in environmental impact assessment reviews, safety case assessments, and major regulatory decisions affecting the marine environment. These mechanisms should include: public notice and comment periods for major regulatory decisions; access to environmental information, including EIA reports and environmental monitoring data, subject to protection of genuinely confidential commercial information; independent environmental advisory panels with civil society representation; and complaint mechanisms allowing civil society organisations and affected communities to bring concerns about regulatory compliance to the attention of the OPRA.

CHAPTER 26: TRANSBOUNDARY RESOURCE MANAGEMENT AND REGIONAL COOPERATION FRAMEWORKS

26.1 The Legal Framework for Transboundary Hydrocarbon Resources

The exploitation of hydrocarbon resources that straddle international maritime boundaries is one of the most practically challenging aspects of offshore petroleum governance. Transboundary deposits, known as straddling resources or cross-boundary reserves, are common in offshore petroleum regions because hydrocarbon accumulations are determined by geology, not by the human-drawn lines of maritime boundaries. When a single hydrocarbon deposit extends across a maritime boundary, the exploitation of that deposit by one state affects the resources available to the other state, creating the classic problem of a shared resource that each state has an incentive to exploit as rapidly as possible before the other does.

UNCLOS does not contain specific provisions for the unitisation of transboundary offshore hydrocarbon deposits, unlike its provisions for straddling fish stocks, which are addressed in Articles 63 and 64. However, the obligation in Article 83(3) to make every effort to enter into provisional arrangements and not to jeopardise or hamper the reaching of the final agreement implicitly requires cooperation in the exploitation of transboundary deposits, even before a final maritime boundary is determined. And the general principle of good faith in treaty relations, which requires states to cooperate in the implementation of their obligations, supports the conclusion that UNCLOS requires states to negotiate unitisation arrangements for transboundary deposits rather than engaging in competitive extraction.

The legal framework for transboundary deposit governance has been developed in the bilateral agreements of major offshore petroleum regions. The North Sea framework, established through a series of bilateral agreements between Norway, the United Kingdom, Denmark, Germany, and the Netherlands, provides the most comprehensive model. These agreements establish procedures for the determination of whether a deposit extends across the boundary, for the negotiation of a unitisation agreement, and for the administration of the unified field. The unitisation agreement typically establishes a tract participation system under which each state's share of the unified field is determined by the proportion of the reservoir lying within its territory, and it designates a single operator for the entire field with authority to make operational decisions on behalf of all tract participants.

Bangladesh's PSC model and its petroleum legislation do not currently address the governance of transboundary deposits. In the absence of a specific legal framework, the discovery of a commercially significant hydrocarbon deposit straddling Bangladesh's maritime boundary with India or Myanmar could trigger a legal dispute about the respective rights of the states concerned and about the operational governance of the deposit. The development of bilateral agreements with India and Myanmar establishing a framework for the identification, notification, and unitisation of transboundary deposits is therefore a priority element of Bangladesh's offshore petroleum governance reform agenda.

26.2 The BIMSTEC Framework for Regional Offshore Energy Cooperation

The BIMSTEC Agreement on Maritime Transport Cooperation of 2025 establishes a regional framework for maritime cooperation that, while primarily focused on port services and maritime transport, contains provisions that are relevant to the governance of offshore energy resources. The agreement's commitments to regional maritime safety and environmental protection, to the sharing of maritime information, and to the coordination of maritime governance among the BIMSTEC member states provide a foundation on which a more specific regional framework for offshore energy cooperation could be built.

The development of a BIMSTEC framework for offshore energy cooperation would address several practical challenges that individual states cannot effectively address unilaterally. The coordination of seismic survey programmes across national boundaries could significantly reduce the cost of geological data acquisition and improve the understanding of the regional petroleum system of the Bay of Bengal, including the likelihood and scale of transboundary deposits. The harmonisation of environmental standards for offshore petroleum operations would prevent the race to the bottom that can occur when states compete for offshore investment by reducing their environmental standards. And the development of a regional oil spill response framework, addressing the cooperative response to oil spills in international waters or in waters that flow across national boundaries, would enhance the protection of the shared marine environment of the Bay of Bengal.

Bangladesh, as the host of the BIMSTEC secretariat and as the country with the most ambitious offshore petroleum development agenda among the BIMSTEC members, should take a leadership role in the development of a regional offshore energy cooperation framework. This role would benefit from the development of a comprehensive domestic legal framework that Bangladesh can present as the template for regional harmonisation, and it would strengthen Bangladesh's regional influence by positioning it as the leading advocate for responsible offshore development governance in the Bay of Bengal region.

26.3 Bangladesh and the Indian Ocean Commission: Offshore Resources in the Wider Regional Context

The Indian Ocean Commission, which brings together the island states of the southwest Indian Ocean, including the Maldives, Comoros, Madagascar, Mauritius, and Seychelles, is not directly relevant to Bangladesh's offshore governance challenges. However, the broader context of Indian Ocean governance, including the Indian Ocean Rim Association (IORA) and the various regional seas conventions and action plans relevant to the Indian Ocean, provides an important framework for Bangladesh's engagement with the international community on offshore petroleum governance.

The Regional Seas Programme of the United Nations Environment Programme (UNEP) includes the South Asian Seas Programme, which covers the waters of Bangladesh, India, Pakistan, Maldives, and Sri Lanka. The South Asian Seas Programme's Action Plan and its Coordinating Unit in Colombo provide a vehicle for regional cooperation on marine environmental protection, including in the context of offshore petroleum operations. Bangladesh's engagement with the

South Asian Seas Programme on the development of regional standards for offshore environmental impact assessment and oil spill response would strengthen both the regional governance framework and Bangladesh's own regulatory capacity.

CHAPTER 27: DEEP SEABED MINERAL RESOURCES BEYOND NATIONAL JURISDICTION: BANGLADESH'S ENGAGEMENT AND INTEREST

27.1 Bangladesh and the International Seabed Authority: A Stakeholder Analysis

Bangladesh's relationship with the International Seabed Authority reflects the general pattern of developing state engagement with the ISA: formal membership and rhetorical commitment to the common heritage principle, but limited practical engagement with the technical and legal details of ISA governance. The ISA's proceedings in 2025, both the March and the July sessions of its thirtieth Council session, were attended by Bangladesh's diplomatic representatives, but Bangladesh has not been among the leading developing-country voices in the negotiations on the Mining Code, a role that has been taken primarily by the African Group, the Pacific island states, and the Group of 77 spokesmen.

This limited engagement is understandable given Bangladesh's many competing diplomatic priorities and its limited diplomatic resources for multilateral maritime governance. But it is suboptimal from the perspective of Bangladesh's interests. The outcome of the ISA's Mining Code negotiations will determine the level of financial benefit that Bangladesh receives from deep seabed mining activities, the environmental standards applicable to activities in the Area that affect the broader Indian Ocean ecosystem, and the robustness of the international legal framework that underpins the common heritage principle and the authority of UNCLOS. These are significant interests that deserve more active advocacy.

Bangladesh should consider several specific diplomatic initiatives in the ISA context. It should co-sponsor, with other developing states in the Bay of Bengal region, a proposal for the early operationalisation of the Economic Planning Commission, emphasising the principle that benefit-sharing mechanisms should be in place before exploitation begins. It should align with the group of states calling for a precautionary approach to environmental standards in the Mining Code, emphasising the connection between deep seabed ecosystem protection and the principle of intergenerational equity that is enshrined in the common heritage concept. And it should join the group of states calling for strong reaffirmation of the ISA's exclusive jurisdiction over Area mineral activities, in direct response to the US unilateral action controversy of 2025.

27.2 Polymetallic Nodules, Critical Minerals, and the Energy Transition: Bangladesh's Strategic Position

Bangladesh's strategic interest in the critical minerals dimension of the deep seabed mining debate is directly connected to its energy transition objectives. The global demand for cobalt, nickel, manganese, and copper, which are essential for the batteries required to power the electric vehicles and energy storage systems of the decarbonised economy, is projected to increase

dramatically over the coming decades. If this demand is met from terrestrial mining, it will cause significant environmental damage in mining regions and will create supply chain concentrations in the hands of a small number of mineral-rich countries. Deep seabed mining from the Area, if properly governed under the ISA framework, could provide a more widely available and potentially less environmentally damaging source of these critical minerals, with the benefit-sharing provisions of the common heritage framework ensuring that the revenues flow to all states, including developing states.

Bangladesh's energy transition agenda, which includes ambitious targets for solar and wind power development, requires significant quantities of these critical minerals for battery storage systems and for the wind turbines and solar panels of its expanded renewable energy capacity. If the ISA framework succeeds in establishing a genuinely effective benefit-sharing regime for Area mineral revenues, Bangladesh could potentially use its share of those revenues to finance the import of critical minerals for its domestic energy transition, creating a virtuous cycle in which the governance of the global commons contributes to the energy transition objectives of developing states.

This strategic vision for the connection between the ISA framework, the critical minerals supply chain, and the energy transition objectives of developing states deserves more systematic development in Bangladesh's diplomatic engagement with the ISA. It provides a compelling narrative for Bangladesh's advocacy of strong benefit-sharing provisions in the Mining Code and for its support for the ISA framework against the challenge of unilateral US action. Bangladesh is not merely a passive recipient of whatever the major powers decide to do with the resources of the global commons; it is a legitimate stakeholder in the governance of those resources, with both rights and obligations under the common heritage framework.

CHAPTER 28: COMPARATIVE JURISPRUDENCE OF OFFSHORE RESOURCE LAW

28.1 Norway: The Gold Standard of Offshore Petroleum Governance

Norway's development of its offshore petroleum resources, which were discovered in the late 1960s in the North Sea, provides the most widely cited model of successful offshore petroleum governance. The Norwegian experience has been studied extensively and has been recommended as a template for developing countries seeking to avoid the resource curse and to translate their offshore petroleum wealth into long-term sustainable development.

The key elements of the Norwegian model that are most relevant to Bangladesh include: the comprehensive Petroleum Act of 1996, which provides a clear and transparent legal framework for all aspects of offshore petroleum governance; the separation of the regulatory function, vested in the Norwegian Petroleum Directorate and then the Petroleum Safety Authority, from the commercial function, vested initially in the state company Statoil (now Equinor) and from state ownership, vested in the government through the State's Direct Financial Interest in petroleum licences; the Government Pension Fund Global, which has accumulated the world's largest sovereign wealth fund from a combination of petroleum revenues and investment returns;

the principle of gradual and managed resource development, ensuring that the pace of petroleum exploitation is calibrated to the economy's absorptive capacity; and the culture of transparency and accountability in offshore governance, including full public disclosure of all licensing decisions, regulatory conditions, and financial arrangements.

The Norwegian model is not entirely transferable to Bangladesh's context; Norway is a small, rich, democratic, and institutionally strong state, while Bangladesh is a large, poor, democratising, and institutionally developing state. But the principles underlying the Norwegian model, of regulatory independence, commercial-regulatory separation, sovereign wealth fund management of resource revenues, transparent licensing, and calibrated development, are principles that can be adapted to Bangladesh's specific circumstances and that should inform the design of its offshore governance framework.

28.2 Ghana: Lessons from a Developing-Country Success

Ghana's management of its offshore petroleum sector, since the discovery of the Jubilee oil field in 2007 and the commencement of production in 2010, provides a more directly relevant comparative model for Bangladesh, as Ghana is a developing democratic state that has faced many of the same governance challenges that Bangladesh will face in developing its offshore resources.

Ghana's legal framework for offshore petroleum governance is established by the Petroleum Commission Act of 2011, which created an independent Petroleum Commission as the regulatory authority for the upstream petroleum sector, and the Petroleum Revenue Management Act of 2011, which established a framework for the management of petroleum revenues including the creation of a Ghana Petroleum Funds with explicit rules about the allocation of revenues between current budget support and long-term savings. The PRMA has been modified on several occasions in response to fiscal pressures, and its implementation has been imperfect, but it provides a legal model that is more directly relevant to Bangladesh's institutional context than the Norwegian model.

Ghana's experience also illustrates the challenges and risks of offshore petroleum governance in a developing country context. The legal disputes between the government and Jubilee field partners over the allocation of contract areas have generated costly international arbitration proceedings. The management of the Ghana Heritage Fund has been subject to political pressure, with withdrawals being made for purposes outside the fund's mandate. And the Ghanaian oil industry's environmental and social impacts have not been adequately managed under the existing regulatory framework. These challenges provide cautionary lessons for Bangladesh about the institutional and political pressures that will arise as offshore petroleum development proceeds.

28.3 Timor-Leste: Sovereignty, Resource Rights, and Dispute Resolution

Timor-Leste's experience in managing its offshore petroleum resources in the Timor Sea, particularly through the resolution of its maritime boundary dispute with Australia, provides a

third comparative model that is particularly relevant to Bangladesh because of its focus on the intersection of sovereignty assertion, international arbitration, and offshore resource governance.

Timor-Leste, having gained independence from Indonesia in 2002, faced the challenge of asserting its maritime rights against Australia in relation to the oil and gas resources of the Timor Sea. The CMATS Treaty of 2006, which had established a joint development zone in the Timor Sea, was later found to have been negotiated under compromised circumstances, including Australian intelligence surveillance of Timor-Leste's negotiating team. Timor-Leste initiated compulsory conciliation under UNCLOS Annex V in 2016, the first time this mechanism had been used by any state, seeking the renegotiation of the maritime boundary and the CMATS arrangement. The conciliation produced a new maritime boundary agreement in 2018, which gave Timor-Leste a boundary closer to the median line and a significantly larger share of the petroleum resources of the Timor Sea.

The Timor-Leste experience is relevant to Bangladesh for several reasons. It demonstrates the importance of international legal mechanisms, including UNCLOS compulsory conciliation, as tools for asserting maritime rights against more powerful states. It illustrates the risks of entering into resource-sharing arrangements before maritime boundaries are definitively established, risks that are relevant to Bangladesh's grey area situation with India. And it underscores the connection between sovereignty, resource rights, and national development, demonstrating that the effective assertion of maritime sovereignty is not merely a legal exercise but a fundamental condition of economic independence.

CHAPTER 29: A COMPREHENSIVE LEGISLATIVE AGENDA FOR OFFSHORE RESOURCE GOVERNANCE IN BANGLADESH

29.1 The Proposed Offshore Petroleum Resources Act

The centrepiece of the legislative reform agenda for Bangladesh's offshore resource governance should be a comprehensive Offshore Petroleum Resources Act (OPRA), which would consolidate and replace the relevant provisions of the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985 and provide a modern, comprehensive, and internationally consistent legal framework for all aspects of offshore petroleum governance.

The proposed OPRA should contain the following principal elements, developed in detail based on the analysis in the preceding chapters.

A clear statement of national objectives for offshore petroleum development, including energy security, revenue generation for public investment, technological capability development, employment creation, and environmental protection, together with a hierarchy of these objectives that provides guidance for regulatory decision-making when they conflict.

A licensing framework based on the principle of competitive tender, with clear and publicly disclosed criteria for licence award, provisions for the application for licences, the process of

evaluation of competing applications, the award of licences, the conditions attached to licences, and the grounds for their revocation. The licensing framework should include provisions for the participation of Petrobangla or its successor in offshore licences, as a minority or majority participant, alongside international oil companies.

Comprehensive provisions on the form and content of Production Sharing Contracts, including a model PSC that would be the standard form for all contracts, mandatory contract provisions that cannot be waived by negotiation, and the procedures for the approval of contracts by the government and the parliament. The model PSC should incorporate the environmental equilibrium clause discussed above and should address the governance of transboundary deposits.

An offshore petroleum regulatory framework establishing the Offshore Petroleum Regulatory Authority, its mandate, governance, funding, and powers, and specifying in detail the standards applicable to all phases of offshore petroleum operations from exploration through production to decommissioning.

An environmental impact assessment framework specific to offshore petroleum operations, requiring pre-approval EIA for all exploration and production activities, specifying the content and process of EIA, providing for public consultation in the EIA process, and establishing the criteria against which EIA is evaluated.

An offshore safety framework establishing the safety case requirement for all offshore operations, specifying the minimum content of a safety case, providing for the inspection and enforcement of safety requirements, establishing accident reporting and investigation obligations, and providing for the rights of offshore workers.

A liability and financial security framework establishing strict liability for offshore petroleum pollution damage, requiring the maintenance of financial security in amounts adequate to cover potential liability, providing for compulsory insurance or alternative financial guarantees, and establishing a framework for the remediation of environmental damage.

A revenue management framework establishing the National Offshore Hydrocarbon Revenue Fund, its governance, its investment mandate, its withdrawal rules, and its transparency and reporting obligations.

A transparency framework requiring the disclosure of licence awards, PSC terms, regulatory decisions, environmental monitoring data, and revenue flows, subject to protection of genuinely confidential commercial information.

Dispute resolution provisions specifying the procedures for the resolution of regulatory disputes through administrative appeal and, ultimately, through the domestic court system, as well as the legal framework for contractor disputes under PSCs.

29.2 The Relationship Between the Proposed OPRA and Existing Legislation

The proposed Offshore Petroleum Resources Act should be understood as replacing the relevant provisions of the 1985 Ordinance and supplementing the Territorial Waters and Maritime Zones Act as amended in 2021. The relationship between the three instruments should be clearly specified in the OPRA, with the OPRA taking precedence over the 1985 Ordinance in all matters relating to offshore petroleum governance and the OPRA being subject to and consistent with the Territorial Waters and Maritime Zones Act in all matters relating to the exercise of maritime sovereignty and sovereign rights.

The OPRA should also address its relationship with other relevant legislation, including the Bangladesh Environment Conservation Act of 1995 and the Bangladesh Coast Guard Act of 2010. The environmental provisions of the OPRA should be coordinated with and, in the offshore context, take precedence over the general environmental legislation, with the Department of Environment maintaining an advisory and supporting role in the offshore environmental assessment process. The Coast Guard's maritime enforcement functions in the EEZ, including the enforcement of environmental and safety regulations on offshore installations and vessels, should be clearly specified in both the OPRA and the Coast Guard Act.

29.3 The Ratification and Implementation Agenda for Offshore Resource Governance

The legislative reform agenda for offshore resource governance must be accompanied by a diplomatic programme for the ratification and implementation of relevant international instruments. The most important priorities for ratification and implementation are:

The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention) and its 2010 Protocol, which address liability for pollution damage from ships carrying hazardous and noxious substances, including petroleum products. Bangladesh has not ratified these instruments, and their ratification and implementation would strengthen the legal framework for maritime pollution liability.

The OPRC-HNS Protocol of 2000, which extends the OPRC framework for oil pollution preparedness and response to hazardous and noxious substances. Bangladesh's ratification of this Protocol, complementing its existing OPRC obligations, would strengthen the regional framework for hazardous material spill response in the Bay of Bengal.

The London Protocol's amendment permitting offshore carbon capture and storage, adopted in 2006, which Bangladesh should consider ratifying in anticipation of potential future offshore CCS activities.

Active engagement with the ISA's Mining Code negotiations, with a view to shaping the benefit-sharing provisions and the environmental standards in a manner consistent with Bangladesh's interests as a developing state and as a country with strong interests in the protection of the Indian Ocean marine environment.

CHAPTER 30: POLITICAL PHILOSOPHY, LEGITIMACY, AND THE FUTURE OF OFFSHORE RESOURCE GOVERNANCE IN BANGLADESH

30.1 Legitimacy in Resource Governance: Habermas, Deliberation, and Democratic Accountability

The philosopher Jurgen Habermas, whose theory of communicative rationality and deliberative democracy has been among the most influential in contemporary political philosophy, provides a useful framework for evaluating the legitimacy of offshore resource governance. For Habermas, legitimate political decisions are those that emerge from processes of genuine communicative rationality, in which all affected parties have the opportunity to participate, in which reasons are given and evaluated, and in which power and coercion do not determine the outcome. Applied to offshore resource governance, the Habermasian criterion of legitimacy requires that decisions about the exploitation of sovereign maritime resources be made through deliberative processes that include meaningful participation by all affected stakeholders, including fishing communities, coastal populations, civil society organisations, and future generations.

The current offshore resource governance framework in Bangladesh falls far short of this Habermasian standard of legitimacy. Decisions about PSC terms, licence awards, and environmental standards are made within a small circle of government officials and corporate representatives, without systematic public consultation or deliberation. The affected communities, particularly the millions of Bangladeshis whose livelihoods and environments depend on the health of the Bay of Bengal, have no meaningful voice in these decisions. And future generations, who will bear the long-term consequences of the depletion of non-renewable hydrocarbon resources and the environmental impacts of offshore operations, are entirely unrepresented.

The reform of Bangladesh's offshore resource governance framework should therefore be designed not only to improve the technical and fiscal efficiency of resource management but also to enhance the democratic legitimacy of the governance process. This requires the institution of genuine participatory mechanisms, the strengthening of civil society engagement, the improvement of parliamentary oversight, and the development of institutional proxies for future generation interests such as an environmental ombudsman or an intergenerational trustee for natural resources.

30.2 The Social Contract Theory and Maritime Resource Sovereignty

The social contract tradition in political philosophy, associated with Hobbes, Locke, Rousseau, and Kant, and renewed in the twentieth century by Rawls, provides another lens through which to evaluate the legitimacy of offshore resource governance. The social contract theory holds that the authority of government over its citizens is grounded in a real or hypothetical agreement among the members of a political community to establish a governmental authority in exchange for the protection and promotion of their fundamental interests. On this view, the government's authority to exploit sovereign maritime resources is justified by its obligation to use those resources in a manner that promotes the fundamental interests of all members of the political community, not merely the interests of the powerful.

Applied to offshore resource governance in Bangladesh, the social contract criterion implies that the revenues from offshore petroleum development must be used in ways that genuinely benefit all Bangladeshis, including the poor, the marginalised, and the coastal communities most directly affected by offshore operations. It implies that the environmental costs of offshore development must not be imposed disproportionately on vulnerable communities without their consent and without adequate compensation. And it implies that the governance of offshore resources must be transparent and accountable, so that citizens can evaluate whether the government is fulfilling its social contract obligations.

The National Offshore Hydrocarbon Revenue Fund proposed in the preceding chapter is one institutional expression of this social contract theory of resource governance. By establishing legally binding rules for the management and distribution of resource revenues, the Fund would constrain the discretion of governments to appropriate resource revenues for narrow political purposes and would create a mechanism for holding governments accountable for the fulfilment of their social contract obligations. The Fund's distributional provisions, which should include specific allocations for the development of coastal communities and for the environmental restoration of areas affected by offshore operations, would give concrete expression to the social contract principle of equitable benefit sharing.

30.3 The Future of Offshore Resource Governance: Climate, Technology, and the Long View

The future of offshore resource governance in Bangladesh must be understood in the context of the global energy transition and the long-term trajectory of the international legal framework for ocean governance. The international legal landscape is changing rapidly, driven by the climate emergency, the development of renewable energy technology, the growing recognition of ocean biodiversity as a global public good, and the increasing assertiveness of civil society, scientific communities, and international institutions in demanding that ocean governance be consistent with the long-term sustainability of the marine environment.

In this context, the governance framework for offshore resources that Bangladesh establishes now will determine not only the immediate economic benefits of offshore development but also the long-term environmental legacy of that development and Bangladesh's contribution to or detraction from the global effort to maintain the health of the ocean. A governance framework that is designed solely to maximise short-term resource revenues, without adequate attention to environmental protection, social equity, and long-term sustainability, will produce benefits that are short-lived and costs that are enduring.

The emerging concept of ocean justice, which integrates the distributive justice concerns of the equity tradition with the environmental justice concerns of the ecological tradition and the procedural justice concerns of the democratic accountability tradition, provides a framework for evaluating the aspirations to which Bangladesh's offshore resource governance should aspire. Ocean justice, as articulated by scholars like Svein Jentoft and Ratana Chuenpagdee, requires that the governance of ocean resources respect the rights and interests of all stakeholders, including fishing communities, coastal populations, future generations, and the non-human inhabitants of the marine ecosystem; that the distribution of benefits and costs from ocean

resource use be equitable and transparent; and that the governance process be democratic, participatory, and accountable.

Bangladesh's offshore resource governance reform should be guided by these principles of ocean justice. It should not merely seek to maximise resource revenues or to attract investment on the best available terms. It should seek to govern the extraordinary natural wealth of Bangladesh's maritime domain in a manner worthy of the trust that the people of Bangladesh, and the peoples of the world as common heirs to the ocean's bounty, have placed in the legal and political institutions of maritime governance.

CONCLUSION TO PART FOUR

Part Four of this commentary has undertaken a comprehensive legal, jurisprudential, and political analysis of the governance of offshore hydrocarbons, seabed minerals, and maritime energy resources in Bangladesh, ranging from the philosophical foundations of subsoil resource sovereignty through the doctrinal architecture of UNCLOS, the specific legal framework of Bangladesh's offshore sector, the institutional and regulatory deficiencies of the current regime, the international developments in deep seabed mining governance including the 2025 ISA crisis, the offshore renewable energy frontier, and the political philosophy of resource governance.

Several overarching conclusions emerge from this analysis that deserve emphasis in this conclusion.

Bangladesh's offshore hydrocarbon potential, grounded in the extraordinary geological endowment of the Bengal Fan, is one of the most significant untapped energy frontiers in Asia. The legal and institutional framework for its governance is severely inadequate to the challenge of developing these resources responsibly, equitably, and consistently with Bangladesh's international legal obligations. The failure of the 2024 Offshore Bidding Round, which produced no signed PSCs despite offering highly attractive commercial terms, is a symptom of this institutional inadequacy as much as a consequence of political instability. Fiscal terms alone cannot substitute for a comprehensive, transparent, and technically credible regulatory framework.

The international legal framework for offshore resource governance, as established by UNCLOS and as developed through the jurisprudence of ITLOS and the PCA, creates both rights and obligations for Bangladesh that are not adequately reflected in its current domestic legal framework. The sovereign rights over the continental shelf and EEZ confirmed by the ITLOS judgment of 2012 and the PCA award of 2014 carry with them obligations of environmental protection, due diligence, and good governance that Bangladesh must fulfil if it is to maintain its standing as a responsible member of the international community. The 2024 ITLOS Advisory Opinion on climate change adds a new dimension of environmental obligation that is directly relevant to offshore petroleum governance and that the current framework entirely fails to address.

The global crisis of deep seabed mining governance in 2025, with the ISA's Mining Code negotiations stalled and the United States seeking to bypass the ISA framework through unilateral national action, poses a direct challenge to the international legal order for ocean governance in which Bangladesh has a significant stake. Bangladesh should engage more actively in ISA governance, advocating for robust benefit-sharing provisions, strong environmental standards, and reaffirmation of the ISA's exclusive mandate over Area mineral resources.

The reform agenda proposed in this Part is ambitious, requiring significant institutional investment, legislative energy, and diplomatic engagement. It requires the enactment of a comprehensive Offshore Petroleum Resources Act, the establishment of an independent Offshore Petroleum Regulatory Authority, the creation of a National Offshore Hydrocarbon Revenue Fund, the development of an offshore renewable energy regulatory framework, the negotiation of bilateral grey area management and transboundary resource agreements with India and Myanmar, and the deepening of Bangladesh's engagement with the ISA and with regional offshore governance frameworks through BIMSTEC and the South Asian Seas Programme.

This reform agenda is achievable. Bangladesh has demonstrated, through its successful maritime boundary arbitrations, through the development of the Marine Fisheries Act 2020, and through its international climate diplomacy, that it is capable of sophisticated and principled action in the maritime legal sphere. The same combination of legal expertise, political will, and genuine commitment to the public interest that produced the maritime boundary victories must now be brought to the comprehensive reform of Bangladesh's offshore resource governance framework.

The ocean does not wait for the law to catch up. The geological time that produced the hydrocarbons of the Bengal Fan will not reverse itself, and the political and commercial pressures to begin exploiting these resources will only intensify as Bangladesh's domestic energy crisis deepens and as neighbouring states demonstrate the extractive potential of the same geological formation. The governance framework must be fit for purpose before the drilling begins, and the time to build that framework is now.

The sovereign rights of Bangladesh over the resources of its maritime zones are rights held in trust for the people of Bangladesh, present and future, and for the international community whose common heritage lies in the health and integrity of the ocean. The legal governance of those resources must be worthy of that trust.

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End of Part Four

Part Five: The Legal Governance of Maritime Transport, Port Services, and Shipping Law in Bangladesh will follow as the next volume in this series. The analysis in Parts One through Four has progressively built a comprehensive picture of Bangladesh's maritime legal landscape, from its philosophical and historical foundations through its boundary governance, fisheries management, and offshore resource law. Part Five will turn to the operational dimension of maritime activity: the ships that travel Bangladesh's waters, the ports through which its trade flows, and the legal framework that governs the safety, efficiency, and environmental performance of Bangladesh's shipping and port sector.

PART FIVE

FISHERIES GOVERNANCE, LIVING MARINE RESOURCES, AND THE ARCHITECTURE OF SUSTAINABLE OCEAN ECONOMIES IN BANGLADESH: A LEGAL, PHILOSOPHICAL, AND JURISPRUDENTIAL COMMENTARY

A DEEP INVESTIGATION INTO THE NORMATIVE FRAMEWORK, INSTITUTIONAL ARCHITECTURE, LEGISLATIVE HISTORY, INTERNATIONAL OBLIGATIONS, ENFORCEMENT CHALLENGES, THEORETICAL DEBATES, AND IMPERATIVE REFORMS GOVERNING MARINE FISHERIES IN THE EXCLUSIVE ECONOMIC ZONE AND COASTAL WATERS OF THE PEOPLE'S REPUBLIC OF BANGLADESH

PREFACE TO PART FIVE

The fish of the Bay of Bengal have sustained the people of Bengal for thousands of years. Before UNCLOS, before international law, before the nation-state itself, the fisherfolk of the Bengal coast cast their nets into the waters of the Bay and brought home the sustenance upon which civilisations were built. The hilsa shad, the bombay duck, the prawn, the pomfret, and the dozens of other species that crowd the waters of Bangladesh's Exclusive Economic Zone are not merely economic commodities. They are cultural symbols, nutritional foundations, and the livelihood anchors of millions of people whose identity is inseparable from the sea.

Yet the legal architecture that governs this fishery, and the governance institutions that give that architecture practical force, are in a state of significant inadequacy. The Marine Fisheries Act of 2020 represents a genuine advance over the Marine Fisheries Ordinance of 1983 that it replaced, and the Marine Fisheries Rules of 2023 have further elaborated the regulatory framework. But these improvements, welcome as they are, have not resolved the fundamental problems of institutional fragmentation, enforcement weakness, scientific underinvestment, regional governance failure, and the profound mismatch between the legal framework and the ecological realities of a fishery under severe and growing pressure from overexploitation, habitat degradation, and climate change.

Part Five of this commentary undertakes a comprehensive examination of Bangladesh's marine fisheries legal framework in all its dimensions: historical, legislative, jurisprudential, philosophical, comparative, and reformative. It draws on the most recent developments in international fisheries law, including the 2024 ITLOS Advisory Opinion's implications for fisheries governance, the 2025 ICJ Advisory Opinion's broader articulation of climate obligations that directly affect marine living resources, the 2026 BOBP-IGO roadmap for small-scale fisheries reform, and the 2025 ecosystem survey conducted by the RV Dr. Fridtjof Nansen, to build a picture of the current state of law and governance and to chart the path of comprehensive reform that Bangladesh's maritime future requires.

The analysis is deliberately structured to move from the theoretical to the practical, from the philosophical to the legislative, and from the international to the domestic, because all of these dimensions are necessary to a complete understanding of the legal architecture of fisheries governance and the nature of the reforms it requires.

CHAPTER 1: THE POLITICAL ECONOMY OF FISH: THEORETICAL FOUNDATIONS OF FISHERIES GOVERNANCE AND THEIR APPLICATION TO BANGLADESH

1.1 The Tragedy of the Commons and Its Jurisprudential Implications

The philosophical and economic foundations of fisheries governance have been profoundly shaped by one of the most influential essays in the history of environmental thought: Garrett Hardin's The Tragedy of the Commons, published in the journal Science in 1968. Hardin's argument was deceptively simple. He asked his readers to imagine a pasture open to all. Each herdsman, acting rationally in his own interest, would seek to add more cattle to the common pasture, because the benefit of each additional animal accrued entirely to him while the cost, in the form of slightly reduced grazing quality for all, was shared across all herdsmen. The rational pursuit of individual interest would therefore lead, inexorably, to the overgrazing and destruction of the commons. The logic applied, Hardin argued, to every resource held in common, including the fish of the ocean.

Hardin's essay had an enormous influence on fisheries governance theory and practice. It appeared to provide a scientific foundation for the proposition that open-access fisheries were inherently unstable, that rational self-interest would drive fishermen to overexploit stocks to the point of biological collapse, and that the solution was either privatisation of the resource, which would give individual fishers an incentive to manage it sustainably because they would bear the full cost of depletion, or regulation by a centralised authority capable of imposing and enforcing catch limits. This theoretical framework shaped the development of international fisheries law in the last decades of the twentieth century, encouraging the expansion of exclusive national fisheries zones and the development of rights-based fisheries management systems.

The difficulty with Hardin's analysis, which was identified with devastating precision by the Nobel Prize-winning economist Elinor Ostrom in her 1990 book Governing the Commons, was that it was empirically wrong in its prediction of inevitable commons failure and theoretically incomplete in its characterisation of the only solutions. Ostrom's research demonstrated that many communities around the world had developed sophisticated systems of collective governance for common-pool resources, including fisheries, that successfully avoided the tragedy of the commons without recourse to either privatisation or state regulation. These community-based governance systems relied on clearly defined community membership and resource boundaries, rules adapted to local conditions, participatory rule-making processes, effective monitoring, graduated sanctions for rule-breakers, conflict resolution mechanisms, and recognition by higher-level authorities. Ostrom called these systems common-pool resource institutions, and she identified eight design principles that characterised successful ones.

The jurisprudential implications of this debate are profound and directly relevant to Bangladesh. The choice between market-based solutions to fisheries governance, state-centred regulatory solutions, and community-based co-management solutions is not merely a technical policy choice; it embeds different philosophical assumptions about the nature of property, the proper role of the state, the capacity of communities for self-governance, and the relationship between law and social practice. The liberal property rights tradition, represented in fisheries law by the advocates of individual transferable quotas and similar market mechanisms, draws on Lockean philosophy of property as the product of individual labour and John Stuart Mill's utilitarian defence of property as the most efficient mechanism for resource allocation. The statist tradition, drawing on Hobbesian political philosophy and the Kelsenian theory of law as the command of the sovereign, privileges centralised regulatory authority as the necessary check on the self-destructive logic of open access. The communitarian tradition, whose philosophical roots run from Aristotle's account of the polis to contemporary communitarianism of philosophers like Charles Taylor and Alasdair MacIntyre, and whose normative theory of resource governance Ostrom gave empirical grounding, argues that communities have both the capacity and the right to govern shared resources through institutions of their own making.

Each of these traditions finds expression in aspects of Bangladesh's fisheries legal framework, and the tensions among them are not merely theoretical; they manifest as specific conflicts and inconsistencies in the architecture of legal governance. The Marine Fisheries Act of 2020 attempts to combine elements of all three traditions: it establishes centralised state regulation of fishing effort and access, it introduces elements of property-like rights through the licensing system, and it acknowledges the role of community-based management through provisions on co-management and fishers' participation. The resulting framework is, however, not coherently integrated, and the tensions among these different theoretical traditions produce gaps, contradictions, and enforcement failures that a more theoretically grounded approach to legal design would avoid.

1.2 The Maximum Sustainable Yield Concept: From Scientific Theory to Legal Norm

The concept of maximum sustainable yield (MSY) is the most important scientific concept in the history of international fisheries law. It was developed in the mid-twentieth century by population biologists, most notably Milner Baily Schaefer and Richard Beverton and Sidney Holt, as a way of defining the maximum level of fishing that a fish stock could sustain indefinitely without declining. The underlying biological logic was straightforward: at low levels of fishing, a stock is larger than its equilibrium size and production exceeds natural mortality, so the stock grows; at high levels of fishing, mortality exceeds production and the stock declines; at the MSY level of fishing, mortality exactly equals production and the stock is held at its most productive size. Fishing at or below MSY was, on this theory, genuinely sustainable; fishing above MSY would lead to stock decline and eventual collapse.

The translation of the MSY concept from scientific theory into legal norm began with the 1954 Convention for the High Seas Fisheries of the North Pacific Ocean, which referred to the concept of maximum sustained productivity, and accelerated with the 1958 Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, which required conservation measures to produce the maximum sustainable yield from fishery resources. The concept was

incorporated into UNCLOS in Articles 61 and 119, which require coastal states and states fishing on the high seas to maintain stocks at levels that can produce maximum sustainable yield, as qualified by relevant environmental and economic factors including the economic needs of coastal fishing communities.

The juridical status of the MSY concept under UNCLOS and customary international law is well established: it is a legal standard that coastal states are legally obliged to use as the basis for their fisheries management measures. However, the application of the concept in practice is far more complex and contested than its formal legal articulation suggests, and this complexity has significant implications for Bangladesh's legal obligations and governance challenges.

The first problem is scientific: MSY is not a fixed, objectively determinable quantity; it is a parameter that varies depending on the state of the stock, the environmental conditions affecting it, the accuracy of the stock assessment models used to estimate it, and the assumptions built into those models. For most fish stocks in the Bay of Bengal, including the major commercial species in Bangladesh's EEZ, stock assessment data are sparse, the quality of fisheries data is low, and the models used to estimate MSY are subject to large uncertainties. This scientific uncertainty creates a significant challenge for the legal obligation to manage fisheries at MSY: if you cannot determine what MSY is with reasonable precision, how can you ensure that your fisheries management is achieving it?

The second problem is ecological: the original MSY concept was developed on the basis of single-species models that considered each fish stock in isolation from the broader ecosystem in which it exists. In reality, fish stocks interact with each other and with a complex web of predators, prey, and competitors, and the MSY for one species may be incompatible with the MSY for another. The concept of ecosystem-based fisheries management (EBFM), which has gained increasing acceptance in fisheries science and law over the past three decades, responds to this limitation by requiring fisheries management to take account of the broader ecological context, including predator-prey relationships, habitat conditions, and the impacts of fishing on non-target species and ecosystems.

The third problem is social and economic: the MSY concept is often in tension with the social and economic needs of fishing communities, particularly small-scale and artisanal fishing communities in developing countries like Bangladesh. Managing fisheries strictly at MSY may require significant reductions in fishing effort that, in the short term, cause severe hardship for fishing households that have no alternative livelihood options. The UNCLOS framework acknowledges this tension by qualifying the MSY standard with "relevant environmental and economic factors" including "the economic needs of coastal fishing communities," but it provides no guidance on how to weigh these factors against the imperative of sustainable management.

For Bangladesh, where the marine fisheries sector employs an estimated 1.5 to 2 million people directly as fishers, and many millions more in downstream processing, trading, and related activities, the social dimension of the MSY challenge is particularly acute. Any serious effort to bring fishing effort in the Bay of Bengal within sustainable limits will require accompanying policies to provide alternative livelihoods, social protection, and transition support for displaced

fishing households, and these policies must be integrated into the fisheries legal framework rather than treated as a separate social welfare question.

1.3 Rights-Based Fisheries Management: Theory, Controversy, and Relevance to Bangladesh

The theory of rights-based fisheries management (RBFM) has been one of the most debated and consequential ideas in international fisheries governance over the past three decades. In its most developed form, as implemented in countries like Iceland, New Zealand, and to a lesser extent the United States and Canada, RBFM involves the allocation of specific, quantified, and tradeable entitlements to fish from a managed stock. These entitlements, typically called individual transferable quotas (ITQs) or individual fishing quotas (IFQs), give each quota holder the right to catch a specified quantity of fish from a specified stock in a specified period, and allow the holder to sell or lease that right to other fishers. The theoretical rationale is that the tradability of quotas creates incentives for efficiency and conservation: fishers who can catch their quota at lower cost will buy quotas from those who cannot, consolidating the fishery in the hands of the most efficient operators, and all quota holders have an incentive to support conservation measures that increase the stock, and thereby the value of their quota.

The RBFM approach has produced genuinely impressive results in some jurisdictions, particularly in Iceland, where the introduction of ITQs in the 1980s and 1990s substantially reduced fishing effort and contributed to the recovery of cod and other stocks that had been severely depleted. New Zealand's quota management system, introduced in 1986, is widely regarded as the world's most sophisticated and comprehensive system of rights-based fisheries management, and it has achieved significant improvements in the sustainability of many New Zealand fisheries.

However, the RBFM approach has also been the subject of intense critical scrutiny, particularly from the perspective of social justice, small-scale fisheries, and developing countries. The critics argue that the tradability of fishing quotas leads inevitably to the consolidation of quota ownership among large commercial operators and the displacement of small-scale and artisanal fishers who lack the capital to compete in the quota market. This process of privatisation and consolidation, they argue, is not merely economically inefficient in many contexts; it is socially unjust, destroying the livelihoods and community cohesion of fishing communities that have depended on the sea for generations. In New Zealand, Maori fishing communities, whose traditional rights to fisheries resources had been systematically denied by colonial law, have argued that the ITQ system, despite a major settlement that allocated them significant quota, perpetuates inequities by embedding the values of the market economy in the governance of resources that Maori tradition treats as common heritage.

The relevance of this debate to Bangladesh is complex but important. Bangladesh's Marine Fisheries Act of 2020 does not adopt a full rights-based approach with tradeable quotas, but it does introduce a licensing system that allocates fishing rights to specific vessels and operators, and that system has characteristics that make it susceptible to the same kinds of consolidation and exclusion dynamics that have been observed under more fully developed RBFM systems in other countries. The concentration of industrial fishing licences in the hands of a relatively small

number of large trawler operators, while millions of small-scale artisanal fishers operate in a grey area of partial regulation, creates a structural inequality in the distribution of rights over the fishery that has both economic and political dimensions.

The philosophical tension between market-oriented and community-oriented approaches to fisheries governance reflects a deeper tension in the political philosophy of property and the commons. John Locke's labour theory of property, which underpins the rights-based approach, holds that individuals acquire property rights in resources by mixing their labour with them. Applied to fisheries, this theory would support the allocation of fishing rights to those who have historically invested labour and capital in the fishery. Jeremy Bentham's utilitarian theory would support whatever allocation maximises aggregate utility, which in an ideal market would be achieved by market exchange. But Rawlsian justice theory, with its principle that social and economic inequalities are permissible only insofar as they benefit the least advantaged members of society, challenges both the Lockean and Benthamite approaches in the context of a fishery where the least advantaged are artisanal fishing communities with limited bargaining power and limited alternatives.

1.4 The Ecosystem Approach in International Law: From Concept to Obligation

The ecosystem approach to fisheries management and, more broadly, to ocean governance, has been one of the most significant conceptual developments in international environmental and maritime law in the past quarter century. Its philosophical roots lie in the ecological science of the mid-twentieth century, particularly in the systems ecology developed by Eugene Odum and his contemporaries, which emphasised the interdependence of living organisms within their physical environments and the importance of maintaining the integrity of ecological systems as a whole rather than managing individual species in isolation.

The ecosystem approach entered international environmental law through a series of instruments adopted in the 1990s and 2000s. The Convention on Biological Diversity of 1992 embraced the ecosystem approach as its primary framework for conservation and sustainable use, defining it as a strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way. The Malawi Principles for the Ecosystem Approach, elaborated under the CBD in 1998, provided the most systematic account of the approach, identifying twelve principles that together characterise its application. The FAO Code of Conduct for Responsible Fisheries of 1995, while not explicitly using the term ecosystem approach, contains numerous provisions that reflect its logic, including the requirement to apply the precautionary approach, to minimise waste and bycatch, and to protect biodiversity.

The emergence of the ecosystem approach as a legal obligation in international fisheries law has been a gradual process, involving the progressive elaboration of the UNCLOS framework through interpretive instruments, soft-law instruments, and the jurisprudence of international tribunals. The 1995 Fish Stocks Agreement (formally the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks) was a landmark in this process, explicitly incorporating the precautionary approach and the requirement to adopt measures that minimise the impact of fishing on non-target species

and the marine ecosystem as binding obligations for the states parties to straddling stocks and highly migratory species regimes.

For Bangladesh, the ecosystem approach creates several important legal obligations that are not fully reflected in the current domestic legal framework. The obligation to protect critical habitats, including the mangrove forests of the Sundarbans, the coral communities around St. Martin's Island, and the soft sediment habitats of the EEZ seabed, from the impacts of fishing must be given specific legal expression in fisheries management plans and in the spatial planning framework for the blue economy. The obligation to minimise bycatch and the discarding of non-target species, including the critically endangered river dolphins, marine turtles, sharks, and rays that inhabit Bangladesh's coastal and offshore waters, must be translated into specific gear restrictions, seasonal and area closures, and monitoring requirements. The obligation to maintain the predator-prey relationships and nutrient cycling processes that sustain the productivity of the Bay of Bengal ecosystem must be reflected in multispecies management frameworks that go beyond the single-species MSY approach that has historically dominated fisheries regulation.

1.5 The Human Rights Dimension of Fisheries Governance

The intersection of human rights law and fisheries governance is one of the most rapidly developing areas in international legal scholarship, and it has direct and significant implications for Bangladesh. The recognition that the right to food is a fundamental human right, enshrined in Article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) to which Bangladesh is a party, and that this right has specific implications for the governance of fisheries, which are a critical source of protein for hundreds of millions of people in the developing world, is central to this analysis.

The FAO's Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security of 2012, which addressed tenure governance in the context of fisheries for the first time in a systematic international instrument, drew explicitly on the right to food framework. The subsequent development of the FAO's Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted in 2015, further elaborated the human rights dimensions of small-scale fisheries governance. These instruments, while not legally binding, represent the most developed international normative framework for the human rights approach to fisheries, and they are relevant to Bangladesh's domestic governance obligations.

The Small-Scale Fisheries Guidelines of 2015, as they are commonly known, are a particularly important instrument for Bangladesh because the vast majority of Bangladesh's marine fishers are small-scale and artisanal, operating with simple gear from small vessels, highly dependent on the fishery for their livelihoods and food security, and largely excluded from the formal institutions of fisheries governance. The Guidelines call on states to recognise and protect the tenure rights of small-scale fishers, to ensure their participation in decision-making processes, to protect them from forced displacement and the negative impacts of large-scale fishing, to ensure social protection and safety nets for fishing households, and to mainstream gender equality in fisheries governance. These are not merely aspirational standards; they represent binding

obligations that flow from Bangladesh's commitments under the ICESCR and other international human rights instruments.

The human rights of fish workers, including the right to fair and safe working conditions guaranteed by international labour standards, is another dimension of the human rights approach to fisheries governance that receives insufficient attention in Bangladesh's domestic legal framework. The ILO Convention on Work in Fishing (C188) of 2007, which Bangladesh has not ratified, establishes minimum standards for accommodation, food, safety, medical care, and social security for fishers working on fishing vessels. Bangladesh's fisheries legislation makes little reference to the labour rights of fishers, and the working conditions on many of Bangladesh's fishing vessels, particularly the larger industrial trawlers, are reported to be poor. The integration of labour rights standards into the fisheries governance framework is an important dimension of the comprehensive reform that this Part advocates.

CHAPTER 2: THE HISTORICAL DEVELOPMENT OF FISHERIES LAW IN BENGAL AND BANGLADESH

2.1 Pre-Colonial Maritime Fisheries in the Bay of Bengal: Custom, Community, and the Governance of Living Resources

The governance of fisheries in the Bengal region long predates the advent of British colonial rule and the introduction of modern legislative frameworks. The fishing communities of the Bengal coast, including the Jaladas, the Mundas, and other communities whose identity and social structure are organised around the sea and the river, developed sophisticated systems of customary governance for the management of fishing grounds, the allocation of rights to specific locations and species, and the resolution of disputes among fishers. These systems were not written law in the Western sense, but they were genuine legal systems in the anthropological and sociological sense: they were normative frameworks that specified rights and obligations, that were enforced through community mechanisms of social pressure, exclusion, and dispute resolution, and that were adapted over time to changing ecological and social conditions.

The intellectual tradition of legal pluralism, developed in the work of anthropologists and legal scholars including Bronislaw Malinowski, Sally Falk Moore, and John Griffiths, provides the theoretical framework for understanding these customary fisheries governance systems as genuine legal systems deserving recognition and protection alongside the formal state law. Legal pluralism holds that any social field may be characterised by a multiplicity of legal orders, not just the law of the state, and that these multiple legal orders may interact, conflict, and accommodate each other in complex ways. The dismissal or suppression of customary legal systems in favour of exclusive state law is, on this view, not merely ethically problematic because it violates the self-determination rights of the communities whose legal systems are suppressed; it is also practically counter-productive because it destroys the social institutions and local knowledge systems that make customary governance effective.

The specific characteristics of customary fisheries governance in the Bengal coastal zone included the recognition of community-based territorial rights in specific fishing grounds, with entry by outsiders subject to negotiation and in many cases the payment of tribute or rent to the community that claimed jurisdiction. These territorial use rights in fisheries (TURFs), as they are called in the modern fisheries governance literature, are forms of property rights in a resource that is not privately owned but communally governed. The resilience of these systems over many centuries, in an ecological environment that was constantly changing due to the dynamic nature of the delta and the annual monsoon cycle, is evidence of their adaptive capacity and their effectiveness in managing the fishery sustainably.

The advent of British colonial rule brought the imposition of a legislative framework for fisheries governance that was developed in the context of British legal concepts of property, sovereignty, and resource management. The Indian Fisheries Act of 1897, which was the first piece of legislation in British India with jurisdiction over marine fisheries, reflected the colonial state's interest in regulating the fishery primarily for purposes of revenue extraction and the protection of the interests of large commercial operators. It provided for the protection of fish hatcheries, the prohibition of certain destructive fishing practices, and the establishment of closed seasons, but it paid no attention to the customary rights and governance systems of fishing communities, which were simply not recognised as legally relevant.

This erasure of customary fisheries governance by the colonial legislative framework had profound and lasting consequences. It removed the legal recognition that had supported community-based management, creating a situation in which fishing grounds that had previously been governed effectively by community institutions became formally open access resources subject only to state regulation. But the state's regulatory capacity was, in the colonial period and in the post-independence period alike, insufficient to fill the governance vacuum created by the dissolution of customary institutions. The result was the classic common-pool resource problem that Hardin had theorised: the absence of effective governance, whether customary or state-based, led to increasing fishing pressure and the progressive degradation of fish stocks.

The historical irony is that the very problem that the expansion of the exclusive economic zone and the development of domestic fisheries regulation were intended to solve, the overexploitation of the Bay of Bengal fishery, was in significant part created by the colonial legal framework that abolished the customary governance systems which had previously managed the fishery sustainably. This is not merely a historical observation; it is a practically important insight for the design of contemporary fisheries governance reform, because it suggests that any effective reform must engage seriously with the question of how to reconstruct community-based governance alongside state regulation, rather than relying exclusively on state-centred command-and-control approaches.

2.2 The Colonial Period: Legislative Frameworks and Their Legacies

The legislative history of fisheries regulation in Bengal under British colonial rule is characterised by a series of enactments that progressively elaborated the framework of state control over fisheries while consistently failing to address the fundamental governance

challenges posed by the open-access nature of the fishery and the social dimensions of fishing communities' dependence on marine resources.

The Private Fisheries Protection Act of 1889 was the oldest fisheries regulation enacted in Bengal, and it remains technically in force in Bangladesh today, though its scope is limited to the protection of fishing rights in private waters. Its continued nominal existence in the statute book is a reflection of the legislative inertia that characterises Bangladesh's fisheries law; a comprehensive codification would have repealed it decades ago. Its jurisprudential interest lies in its recognition of the concept of private fishing rights, which suggests that the colonial legal system did acknowledge, in at least some contexts, the possibility of exclusive proprietary rights in fisheries, even if it failed to recognise the communal territorial rights of fishing communities.

The Indian Fisheries Act of 1897, which applied to marine fisheries within the territorial waters of British India, including the Bengal coast, was the principal legislative framework for marine fisheries regulation in the colonial period. It empowered provincial governments to make rules for the protection and conservation of fish, including the prohibition of destructive fishing practices, the establishment of closed seasons, and the specification of minimum sizes for fish that could be taken. This Act was inherited by Pakistan at partition and subsequently by Bangladesh at independence, and it remained in force in amended form until the adoption of the Marine Fisheries Ordinance of 1983. Its longevity reflects not a considered decision to retain colonial-era law but the failure to undertake comprehensive legislative reform.

The Fish Conservation Act of 1950, adopted by the Government of Pakistan, made significant modifications to the colonial fisheries framework, including the introduction of a prohibition on the use of explosives and poisons in fishing and the expansion of the powers of fisheries authorities to close specific areas and seasons. This Act was amended in 1982, 1995, and 2002 by successive Bangladeshi governments, and it continues to apply to freshwater fisheries in Bangladesh, though its relationship to the newer marine fisheries legislation is not always clearly delineated.

The most important legislative development in the post-independence period, before the Marine Fisheries Act of 2020, was the Marine Fisheries Ordinance of 1983. This Ordinance, adopted by the military government of General Ershad, was the first piece of legislation specifically designed for the governance of Bangladesh's newly confirmed marine fisheries jurisdiction following the Territorial Waters and Maritime Zones Act of 1974. It introduced the first system of licensing for fishing vessels operating in Bangladesh's marine fisheries waters, established the first framework of restrictions on fishing effort and gear, and created the institutional framework of the Department of Fisheries as the principal regulatory authority for marine fisheries.

The 1983 Ordinance was, by the standards of its time, a reasonable legislative response to the challenge of establishing marine fisheries governance in a newly independent developing country. But by the early twenty-first century it was severely inadequate in multiple respects. It lacked any reference to the ecosystem approach or the precautionary approach. Its licensing and enforcement provisions were insufficient to control the dramatic expansion of fishing effort that occurred with the growth of the industrial trawler fleet in the 1990s and 2000s. It provided no framework for the participation of fishing communities in governance. Its penalties for violations

were too low to deter illegal fishing. And it made no provision for the integration of fisheries management with broader maritime zone governance, environmental protection, and blue economy development.

2.3 The Marine Fisheries Act of 2020: Architecture, Advances, and Inadequacies

The Marine Fisheries Act of 2020 represents the most significant legislative development in Bangladesh's fisheries law since independence. It was adopted by the Parliament of Bangladesh on 17 September 2020, replacing the Marine Fisheries Ordinance of 1983 and introducing a substantially revised and expanded framework for the regulation of Bangladesh's marine fisheries. The Act covers the full range of Bangladesh's Marine Fisheries Waters, defined as including the territorial sea, the contiguous zone, the Exclusive Economic Zone, and the continental shelf area of Bangladesh.

The structural architecture of the 2020 Act deserves careful attention. It is organised into nine chapters covering: preliminary provisions and definitions; management of Bangladesh Marine Fisheries Waters; fisheries licensing and operational conditions; conservation and management of fisheries resources; monitoring, control, and surveillance; marine protected areas and habitat conservation; illegal, unreported, and unregulated fishing; penal provisions; and general and miscellaneous provisions. This structure is broadly consistent with the architecture of modern fisheries legislation in comparable jurisdictions, and it represents a significant improvement over the relatively simple structure of the 1983 Ordinance.

The Act's definition of Bangladesh Marine Fisheries Waters, in Section 2, explicitly incorporates the boundaries established by the ITLOS judgment of 2012 and the PCA award of 2014, reflecting Bangladesh's newly confirmed maritime entitlements. This is an important innovation that the 1983 Ordinance, enacted before those proceedings, could not contain. The definitional framework of the Act also introduces several concepts not present in the 1983 Ordinance, including definitions of IUU fishing, flag state responsibilities, port state measures, and the ecosystem approach, demonstrating an awareness of the contemporary international fisheries law framework.

The licensing provisions of the Act, contained in Chapter Three, establish a comprehensive system of licensing for fishing vessels and fishing operations in Bangladesh's Marine Fisheries Waters. All fishing vessels operating in Bangladesh's marine fisheries waters must be licensed by the Department of Fisheries, and licensing conditions may specify the fishing areas, fishing seasons, gear types, and catch levels permitted. The Act provides for the suspension and cancellation of licences for violations of the Act's provisions, and it introduces the concept of vessel monitoring systems (VMS) as a condition of licensing for larger fishing vessels.

The conservation and management provisions of Chapter Four are the most substantive part of the Act in terms of their relationship to international fisheries law obligations. The Act requires the government to prepare and implement fisheries management plans for the major commercial species in Bangladesh's Marine Fisheries Waters, based on the best available scientific information and in accordance with the principles of maximum sustainable yield, the precautionary approach, and the ecosystem approach. It prohibits a range of destructive fishing

practices, including the use of explosives, poisons, and electric shocks; the use of banned gear types; and fishing in declared closed areas and during closed seasons. It establishes a system of annual catch statistics and reporting that is intended to provide the data foundation for science-based management.

The monitoring, control, and surveillance provisions of Chapter Five are particularly important for the practical effectiveness of the Act's conservation measures, since the best-designed rules are useless if they cannot be enforced. The Act provides for the establishment of a Fisheries Monitoring Centre to receive and process VMS data from licensed fishing vessels, and it authorises officers of the Department of Fisheries, the Bangladesh Navy, and the Bangladesh Coast Guard to board, inspect, and detain vessels suspected of violating the Act's provisions. It establishes procedures for the seizure of vessels and catches and for the prosecution of offenders.

The IUU fishing provisions of Chapter Seven reflect Bangladesh's growing engagement with the international framework for combating illegal, unreported, and unregulated fishing, which is one of the most pressing challenges in global fisheries governance. The Act defines IUU fishing broadly, consistent with the FAO's International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) of 2001, and it provides for the denial of port access, the denial of landing rights, and other port state measures against vessels engaged in IUU fishing. This port state control framework, while limited in scope given Bangladesh's relatively small international fishing port infrastructure, is consistent with the Port State Measures Agreement of 2009, which Bangladesh has not ratified but to which it is being encouraged to accede.

Despite these advances, the Marine Fisheries Act of 2020 contains several significant inadequacies that this commentary must address carefully. The first and most fundamental inadequacy is the absence of specific, scientifically grounded catch limits for the major commercial species in Bangladesh's EEZ. The Act requires the preparation of fisheries management plans, but it does not specify the timeframe for their preparation, the scientific standards they must meet, the participatory process for their development, or the legal consequences of failing to prepare or implement them. As of 2025, several years after the Act's adoption, comprehensive scientifically-grounded fisheries management plans for the major commercial species are still not in place. This is not merely a regulatory failure; it is a failure of the government to discharge its obligations under UNCLOS Article 61, which requires the coastal state to ensure the maintenance of living resources in the EEZ through conservation measures based on the best available scientific information.

The second significant inadequacy is the treatment of small-scale and artisanal fisheries. Although the Act acknowledges the existence of artisanal fisheries, its regulatory framework is predominantly designed around the management of the industrial trawler fleet and is not well adapted to the governance challenges of the small-scale fishery, which involves hundreds of thousands of small vessels, multiple fishing communities spread across thousands of kilometres of coastline, and a diversity of traditional fishing practices that do not fit neatly into the regulatory categories designed for industrial fishing. The Bangladesh Marine Fisheries Management Plan for Artisanal Fisheries 2024-2027, developed with the support of the FAO and BOBP-IGO, represents an attempt to address this gap, but it is a non-legislative planning

instrument without specific statutory authority, and its implementation depends on voluntary compliance and limited administrative capacity.

The third inadequacy is the Act's treatment of the intersection of fisheries governance with the broader marine environment. The Act contains provisions on Marine Protected Areas and habitat conservation, which are important innovations, but these provisions are not well integrated with the provisions of the Territorial Waters and Maritime Zones Amendment Act of 2021 on marine environmental protection, creating a fragmented regulatory landscape in which different aspects of the marine environment are governed by different legislative instruments with different institutional responsibilities and different enforcement mechanisms.

The fourth inadequacy is the Act's treatment of climate change. The 2020 Act contains no reference to climate change, ocean warming, sea-level rise, or the impacts of climate change on marine ecosystems and fisheries. This is a striking omission in a piece of legislation adopted in 2020, by which time the scientific consensus on climate change and its marine impacts was unambiguous, the IPCC reports had documented the likely impacts on Bay of Bengal fisheries in detail, and Bangladesh's own experience of increasingly severe cyclones and warming sea temperatures was providing direct evidence of these impacts. The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion have since confirmed that climate change is a central issue in the international law of the sea, with direct implications for fisheries governance, and the absence of any climate change framework in the 2020 Act is now clearly inconsistent with Bangladesh's international legal obligations.

2.4 The Marine Fisheries Rules 2023: A Critical Analysis

The Marine Fisheries Rules of 2023, published in the Official Gazette as SRO No. 58 of 2023, represent the principal secondary legislation implementing the Marine Fisheries Act of 2020. They elaborate in considerable detail the procedural and technical framework for the Act's implementation, including licensing procedures, gear specifications, closed area and season designations, monitoring and reporting requirements, and penalty schedules. They also, as noted above, introduce important provisions on marine mammal bycatch, reflecting Bangladesh's engagement with international standards on the incidental capture of cetaceans and other large marine animals.

The Rules' provisions on vessel licensing are more detailed and more demanding than those of the previous regulatory framework, requiring applicants to provide technical specifications for their vessels, to demonstrate compliance with safety standards, to install VMS transponders on vessels above a specified size, and to maintain logbooks of their fishing operations. These requirements, if effectively enforced, would provide significantly improved data on fishing effort and catch composition compared to the sparse and unreliable data that have historically been available to fisheries managers in Bangladesh.

However, the Rules also reveal several significant problems with the implementation of the Act's framework. The technical standards specified for VMS transponders and vessel safety equipment are in some respects inconsistent with those used in regional and international monitoring frameworks, creating compatibility problems that reduce the utility of VMS data for regional

cooperation on fisheries monitoring. The fee schedule for fishing licences has been set at levels that are too low to generate the revenue needed to fund the monitoring and enforcement activities that effective governance requires; this is a common problem in developing country fisheries governance, where governments are reluctant to impose charges on fishing communities that are already economically vulnerable. And the penalty schedule for IUU fishing and other violations, while significantly increased compared to the 1983 Ordinance, remains inadequate to deter large-scale industrial operators for whom the fines represent a trivial proportion of the profits from illegal fishing.

The Rules' provisions on marine mammal bycatch, while representing an important acknowledgement of international standards, fall short of what is needed to protect the critically endangered species that inhabit Bangladesh's Marine Fisheries Waters. The requirement that fishing vessels comply with international conventions on marine mammal protection and observe existing domestic laws on wildlife conservation is a step forward, but it lacks the specificity needed to translate this broad obligation into effective operational guidance for fishing crews. The absence of mandatory bycatch observer programmes, of requirements for the use of acoustic deterrent devices on vessels operating in known dolphin habitats, and of specific incident reporting and mitigation requirements means that the actual level of bycatch of marine mammals, turtles, and sharks in Bangladesh's fisheries remains poorly documented and inadequately managed.

CHAPTER 3: INTERNATIONAL FISHERIES LAW AND BANGLADESH'S LEGAL OBLIGATIONS

3.1 UNCLOS and the Architecture of Coastal State Fisheries Obligations

The obligations of coastal states in relation to the management of living resources in the Exclusive Economic Zone are set out in Articles 61 to 73 of UNCLOS with a degree of detail that is exceptional for an international treaty, reflecting the importance that the negotiating states attached to this aspect of the new legal framework and the intensity of the political conflicts that its design had to resolve. These articles constitute the primary legal framework within which Bangladesh's domestic fisheries legislation must operate, and their requirements demand careful analysis.

Article 61 of UNCLOS sets out the fundamental obligations of the coastal state in relation to the conservation of the living resources of the EEZ. The coastal state is required to determine the allowable catch of the living resources in its EEZ, to take into account the best scientific evidence available to it, to ensure through proper conservation and management measures that the maintenance of the living resources in the EEZ is not endangered by over-exploitation, and to maintain or restore populations of harvested species at levels which can produce maximum sustainable yield as qualified by relevant environmental and economic factors. The coastal state must also take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.

The language of Article 61 is carefully balanced between the obligation of result, represented by the requirement to maintain stocks at MSY levels, and the obligation of conduct, represented by the requirement to take into account the best available scientific information and relevant environmental and economic factors. This balance has been the subject of considerable scholarly and judicial attention. The 2024 ITLOS Advisory Opinion confirmed that many of the environmental protection obligations under UNCLOS are obligations of due diligence, requiring states to take all necessary measures rather than guaranteeing a specific result, and this framework is applicable to the fisheries management obligations of Article 61 as well as to the pollution prevention obligations of Part XII.

Article 62 deals with the utilisation of living resources, and it introduces an important qualification to the MSY principle: if the coastal state does not have the capacity to harvest the entire allowable catch, it must give other states access to the surplus through agreements or other arrangements. This obligation, which was politically controversial at the time of UNCLOS's negotiation because it was seen by coastal states as a compromise on their exclusive resource rights, has significant implications for Bangladesh's fisheries management. If Bangladesh cannot demonstrate that its domestic fishing industry is harvesting the allowable catch of the major commercial species in its EEZ, it may be obligated to negotiate access arrangements with other states, including the distant-water fishing fleets of China, South Korea, and other countries that have historically exploited Bay of Bengal fish stocks under the pre-EEZ open access regime.

In practice, the available evidence suggests that for most commercially important species in Bangladesh's EEZ, total fishing effort, including both domestic and foreign IUU fishing, significantly exceeds the estimated MSY rather than falling short of it. This means that the surplus utilisation provisions of Article 62 are not currently applicable, but they underscore the importance of bringing total fishing effort within sustainable limits as the primary priority of fisheries governance reform.

Articles 63 and 64 address straddling stocks and highly migratory species respectively, creating obligations of cooperation that are particularly relevant to Bangladesh's regional fisheries governance situation. Article 63 requires states whose EEZs overlap with areas fished by the same stock to seek to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks. Article 64 requires coastal states to cooperate directly or through appropriate international organisations with a view to ensuring conservation and promoting the objective of optimum utilisation of the highly migratory species listed in Annex I of UNCLOS, which includes tunas, billfishes, sharks, and cetaceans.

For Bangladesh, these obligations create specific requirements for regional cooperation with India, Myanmar, Sri Lanka, and other Bay of Bengal states on the management of straddling and highly migratory species. The hilsa shad (Tenualosa ilisha), one of the most economically and culturally important species in Bangladesh's fisheries, migrates between the Bay of Bengal and the freshwater systems of the Ganges, Brahmaputra, and Meghna river basins, and its management requires coordination not only among the coastal states of the Bay of Bengal but between the marine fisheries authorities and the inland fisheries and water resource management authorities of Bangladesh itself. The yellowfin tuna, skipjack tuna, and other highly migratory species that occur in Bangladesh's EEZ are managed regionally under the Indian Ocean Tuna

Commission (IOTC), of which Bangladesh is a member, and Bangladesh's compliance with IOTC conservation and management measures is an international legal obligation as well as a practical necessity for sustainable management.

3.2 The 1995 Fish Stocks Agreement and Its Implications for Bangladesh

The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, commonly known as the Fish Stocks Agreement or the UNFSA, was adopted in 1995 and entered into force in 2001. It represents the most significant development in international fisheries law since UNCLOS itself, and its relationship to UNCLOS is analogous to that between a constitutional implementing statute and its parent constitution.

Bangladesh is not a party to the Fish Stocks Agreement. This is a significant gap in its international fisheries law obligations, and it is an anomaly in light of Bangladesh's deep engagement with UNCLOS and its significant interests in the management of straddling and highly migratory species in the Bay of Bengal. The reasons for Bangladesh's non-accession to the Fish Stocks Agreement have not been systematically examined in the academic literature, but they likely reflect a combination of limited institutional capacity to negotiate and implement the Agreement's obligations, concern about the implications of the Agreement's port state and flag state responsibility provisions for Bangladesh's relatively large fleet of fishing vessels, and a general pattern of limited engagement with fisheries-related international instruments beyond UNCLOS.

The Fish Stocks Agreement has two principal legal innovations beyond UNCLOS. The first is the application of the precautionary approach to fisheries management as a legally binding obligation. The Agreement's Article 6 requires that states apply the precautionary approach widely to conservation, management, and exploitation of straddling and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment. The precautionary approach requires that where there is uncertainty regarding the status of a fish stock, or where the long-term consequences of fishing cannot be reliably predicted, states should err on the side of conservation by applying conservative fishing limits. This is a significant departure from the MSY framework of UNCLOS, which requires management at MSY as a target rather than specifying how to act under uncertainty.

The second innovation is the greatly strengthened framework for compliance and enforcement, including duties of flag states to ensure that their vessels comply with applicable conservation and management measures, port state rights to inspect vessels and deny port access to vessels that have engaged in IUU fishing, and subregional and regional arrangements for boarding and inspection on the high seas. These enforcement provisions, if Bangladesh were to accede to the Agreement, would both create obligations for Bangladesh as a flag state and give Bangladesh as a coastal state additional tools for combating IUU fishing in its EEZ.

The non-participation of Bangladesh in the Fish Stocks Agreement creates a legal inconsistency with its commitments under UNCLOS, since the Agreement is explicitly presented as

implementing the UNCLOS framework for straddling and highly migratory species, and since many of its provisions are considered to reflect customary international law. The comprehensive fisheries law reform advocated in this Part should include Bangladesh's accession to the Fish Stocks Agreement as a central element.

3.3 The FAO Code of Conduct for Responsible Fisheries and Its Normative Status

The FAO Code of Conduct for Responsible Fisheries of 1995, adopted by the FAO Conference on the same day that the Fish Stocks Agreement was finalised, is the most widely acknowledged normative framework for fisheries governance in the international community. Its legal status is that of a voluntary instrument, but it has been described by the ICJ in other contexts, and by the ITLOS in the Advisory Opinion on climate change, as representing the consensus of the international community on best practices for fisheries management, and its standards are routinely applied as benchmarks in the assessment of national fisheries governance. Bangladesh is a member of the FAO and has endorsed the Code of Conduct.

The Code of Conduct provides detailed guidance on all aspects of fisheries management, from the scientific basis of management decisions to the social and economic dimensions of fisheries governance. Its Article 7, on fisheries management, sets out the most detailed framework of guidance on the preparation and implementation of fisheries management plans, the determination of allowable catch, the control of fishing effort, and the protection of the marine environment. Its Article 8, on fishing operations, addresses the conduct of fishing activities, including gear construction and use, fishing vessel operation, and the conduct of fishing in international waters. Its Article 11, on post-harvest practices and trade, is particularly relevant to Bangladesh, whose fisheries sector includes a large post-harvest processing and export trade that is subject to international quality and sustainability standards.

The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, adopted by the FAO Committee on Fisheries in 2001, is the most important elaboration of the Code of Conduct in the area of fisheries enforcement. The IPOA-IUU provides detailed guidance on the responsibilities of flag states, coastal states, and port states in combating IUU fishing, and on the design of national plans of action for IUU prevention. Bangladesh developed a National Plan of Action on IUU fishing, in alignment with the IPOA-IUU, which was reflected in the IUU provisions of the Marine Fisheries Act of 2020. However, as noted above, the practical implementation of IUU control measures remains limited, and the IPOA-IUU's guidance on the measures needed for effective IUU control suggests that Bangladesh's current framework falls short of the standard required.

3.4 The Indian Ocean Tuna Commission: Bangladesh's Membership and Obligations

The Indian Ocean Tuna Commission (IOTC), established in 1993 under the auspices of the FAO, is the principal regional fisheries management organisation (RFMO) responsible for the conservation and management of tuna and tuna-like species in the Indian Ocean, including the Bay of Bengal. Bangladesh has been a contracting party to the IOTC since 1995, and as such it is subject to binding conservation and management measures adopted by the IOTC's Commission in relation to the species under its mandate, which include yellowfin tuna, skipjack tuna, bigeye

tuna, albacore, Indian mackerel (a tuna-like species), swordfish, marlins, sharks, and other associated species.

Bangladesh's compliance with IOTC conservation and management measures is a binding international legal obligation, and Bangladesh's annual report to the IOTC Scientific Committee is an important mechanism of accountability for its fisheries governance performance. The IOTC's 2025 assessment of Bangladesh's fisheries governance, reflected in the national report of the Department of Fisheries to the IOTC Scientific Committee's 28th Session, noted progress in several areas, including the deployment of the RV Meen Sandhani for stock surveys (which has conducted 56 surveys since 2016), the completion of the second ecosystem survey by the RV Dr. Fridtjof Nansen in 2025, and the strengthening of tuna reporting systems. However, significant gaps in Bangladesh's compliance with IOTC data reporting requirements and catch limit measures were also noted.

The legal relationship between Bangladesh's IOTC obligations and its domestic fisheries legislation is not clearly specified in the Marine Fisheries Act of 2020. The Act contains a general provision requiring fishing vessels to comply with the international or regional conventions, treaties, and agreements relating to the conservation and management of marine mammals and large animals, but it does not specifically implement IOTC conservation and management measures in domestic law, leaving a gap between international obligation and domestic enforcement. This gap is a specific example of the broader dualism problem in Bangladesh's legal system, and it should be addressed in the comprehensive legislative reform through a specific provision implementing IOTC and other RFMO measures as part of the domestic regulatory framework.

3.5 The Port State Measures Agreement and Bangladesh's Non-Accession

The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, adopted by the FAO Conference in 2009 and entering into force in 2016, is the first binding international treaty specifically focused on combating IUU fishing. It requires state parties to establish systems for the inspection of foreign fishing vessels in their ports, to deny port access to vessels that have engaged in IUU fishing, to exchange information on IUU fishing with other state parties, and to cooperate in the development of standards for port state control of fishing vessels.

Bangladesh has not acceded to the Port State Measures Agreement. This is a significant gap in its international fisheries law framework, particularly given that Bangladesh is a significant importing country for fish products and that its ports at Chittagong and Mongla receive fishing vessels from multiple countries. Accession to the Agreement would give Bangladesh specific legal tools to combat IUU fishing by foreign vessels in its ports and would strengthen its regional and international cooperation on fisheries enforcement. The Marine Fisheries Act of 2020 contains port state measure provisions that are consistent with the Agreement's requirements, but without formal accession Bangladesh is not subject to the peer review and compliance mechanisms of the Agreement.

The 2026 BOBP-IGO roadmap for small-scale fisheries governance, presented to the FAO Sub-Committee on Fisheries Management in Reykjavik, identified Bangladesh's accession to the Port State Measures Agreement as one of the priority actions for the country's fisheries governance reform, alongside the development of National Plans of Action for small-scale fisheries. These recommendations, coming from the regional intergovernmental body specifically mandated to support fisheries governance in the Bay of Bengal, carry significant weight and should be reflected in Bangladesh's legislative reform agenda.

CHAPTER 4: THE SCIENCE-GOVERNANCE NEXUS: STOCK ASSESSMENT, DATA QUALITY, AND THE BASIS OF FISHERIES MANAGEMENT DECISIONS

4.1 The Current State of Scientific Knowledge About Bay of Bengal Fisheries

Sound fisheries management depends fundamentally on sound scientific knowledge of the status of fish stocks, the dynamics of fish populations, and the impacts of fishing and environmental change on those dynamics. This knowledge requirement is not merely a practical preference; it is a legal obligation under UNCLOS Article 61, which explicitly requires management to be based on the best scientific evidence available, and under the Fish Stocks Agreement and the FAO Code of Conduct, which both require the application of the precautionary approach specifically when the scientific basis for management decisions is inadequate.

The state of scientific knowledge about fish stocks and fisheries in Bangladesh's EEZ has historically been poor, reflecting the limited investment in marine scientific research capacity in Bangladesh and the challenges of conducting systematic surveys in a dynamic and complex marine environment. However, significant progress has been made in recent years through the work of the Bangladesh Fisheries Research Institute (BFRI), the Department of Fisheries, and international research partnerships.

The deployment of the RV Meen Sandhani, Bangladesh's dedicated research vessel, which has conducted 56 research surveys since 2016, has generated progressively improving data on fish stock abundance, distribution, and species composition across different depth zones and seasons. The completion of the second ecosystem survey by the RV Dr. Fridtjof Nansen in 2025, conducted with the support of the FAO's Norwegian Institute of Marine Research partnership programme, represents a particularly significant contribution to the scientific basis for Bangladesh's fisheries management. The Dr. Fridtjof Nansen surveys use standardised bottom trawl survey methodology and acoustic survey methods to generate systematic estimates of fish biomass and species composition across the full depth range of Bangladesh's EEZ, providing the kind of comprehensive stock assessment data that is needed for science-based management.

The data generated by these surveys, combined with the commercial catch statistics collected under the Marine Fisheries Rules of 2023, are progressively improving the scientific basis for fisheries management in Bangladesh. However, significant scientific uncertainties remain, and these uncertainties have important legal implications. For several of the most commercially important species, including the hilsa shad, the population dynamics are influenced by complex

interactions between the marine and freshwater phases of the species' life cycle, and the management of the marine fishery cannot be considered in isolation from the management of the freshwater riverine and estuarine fisheries.

The legal principle that applies in this situation of scientific uncertainty is the precautionary principle or precautionary approach, which requires that the absence of conclusive scientific evidence should not be used as a reason to postpone measures to prevent environmental degradation when there are threats of serious or irreversible damage. The application of the precautionary principle to Bangladesh's marine fisheries was explicitly endorsed by the Bangladesh Supreme Court in its judgement in the BELA v Government of Bangladesh case of 2019, which addressed environmental challenges to industrial fishing practices in coastal waters, and it should be reflected in the comprehensive fisheries law reform through specific provisions requiring the application of conservative management measures when stock status is uncertain.

4.2 The Role of Marine Scientific Research in Fisheries Governance: Legal Dimensions

The relationship between marine scientific research and fisheries governance is governed by several provisions of UNCLOS that have important implications for Bangladesh. UNCLOS Part XIII, on marine scientific research, creates a framework within which coastal states may regulate research activities in their maritime zones, and within which the international community retains certain rights of access to information generated by such research. Article 248 requires states and international organisations wishing to conduct research in the EEZ of a coastal state to provide the coastal state with six months' advance notice of their research projects and to provide full information on the proposed research. Article 249 requires that the coastal state be allowed to participate in the research, that results be made available and shared, and that the research vessel carry a representative of the coastal state if requested.

Bangladesh's domestic legal framework for the regulation of marine scientific research is inadequate. The Marine Fisheries Act of 2020 and the Territorial Waters and Maritime Zones Amendment Act of 2021 both contain general provisions authorising the government to regulate research activities in Bangladesh's maritime zones, but neither provides the detailed framework of procedures, standards, and institutional responsibilities that effective regulation requires. This creates practical difficulties for international research partnerships, which are important sources of both scientific data and capacity building for Bangladesh.

The role of traditional ecological knowledge (TEK) in fisheries science and management is an important dimension of the science-governance nexus that receives insufficient attention in the current legal framework. Fishing communities in Bangladesh have accumulated generations of practical knowledge about the behaviour, distribution, and abundance of fish species, about the relationships between environmental conditions and fish availability, and about the impacts of different fishing practices on fish populations and habitats. This traditional ecological knowledge is not merely anecdotal; it often contains systematic observations that complement and in some cases correct the findings of formal scientific surveys. Several studies have documented the value of TEK for fisheries management in Bangladesh and elsewhere in South Asia, and the CBD Aichi Targets and the Sustainable Development Goals both call for the integration of TEK into environmental management decisions.

The legal framework for the recognition and protection of TEK in Bangladesh's fisheries governance is, however, essentially non-existent. The Marine Fisheries Act of 2020 makes no reference to traditional knowledge, and the participation mechanisms it provides for are oriented primarily toward the formal consultation of fishing industry representatives rather than the systematic incorporation of community-based ecological knowledge into management decisions. A comprehensive reform should include specific provisions requiring the documentation, validation, and integration of traditional ecological knowledge into fisheries stock assessments and management planning.

4.3 The Precautionary Principle in International Fisheries Law: Philosophical Foundations and Practical Application

The precautionary principle, which holds that the absence of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation when there are threats of serious or irreversible damage, is one of the most philosophically interesting and practically contested principles in international environmental and fisheries law. Its philosophical roots can be traced to the Vorsorgeprinzip (foresight principle) of German environmental law, developed in the 1970s in the context of acid rain regulation, and it entered international environmental law through a series of instruments adopted in the 1980s and 1990s, most notably the Rio Declaration on Environment and Development of 1992, whose Principle 15 provides the most widely cited formulation.

The philosophical foundations of the precautionary principle are contested. From a consequentialist perspective, the principle can be justified as a rational response to the asymmetry between the potential costs of irreversible environmental harm and the costs of precautionary measures: where the harm of inaction could be catastrophic and irreversible while the cost of action is modest and reversible, it is rational to act even in the absence of scientific certainty. From a deontological perspective, the principle can be grounded in a duty of care toward future generations who will inherit the consequences of today's environmental decisions. From a rights-based perspective, the principle can be understood as an aspect of the right to a healthy environment, which requires that activities posing serious environmental risks be regulated even when the scientific case for harm is not conclusive.

The application of the precautionary principle in fisheries governance raises specific questions about how precaution should be operationalised in the context of fisheries management decisions. The Fish Stocks Agreement provides the most detailed legal framework for precautionary fisheries management, requiring the adoption of precautionary reference points that identify the state below which a stock should not be allowed to fall, and that trigger specific management responses when the stock approaches those reference points. This framework requires the specification of threshold biomass levels below which fishing should be substantially reduced or prohibited, and of threshold fishing mortality rates above which fishing effort should be reduced.

Bangladesh's domestic fisheries legislation does not yet incorporate the precautionary reference point approach endorsed by the Fish Stocks Agreement. The Marine Fisheries Act of 2020 refers to the precautionary approach but does not specify how it is to be operationalised in the

preparation of fisheries management plans or the determination of allowable catches. This gap must be addressed in the comprehensive legislative reform by requiring that fisheries management plans identify precautionary reference points for each managed stock, based on the best available scientific information, and that management measures be triggered automatically when stocks approach or fall below these reference points.

CHAPTER 5: ILLEGAL, UNREPORTED, AND UNREGULATED FISHING IN THE BAY OF BENGAL: INVESTIGATION, GOVERNANCE, AND REFORM

5.1 The Scale and Nature of IUU Fishing in Bangladesh's EEZ

Illegal, unreported, and unregulated (IUU) fishing is one of the most serious governance challenges in marine fisheries management globally, and it is a particularly acute problem in the Bay of Bengal, where the combination of rich fish stocks, porous maritime borders, limited surveillance capacity, and high demand from both regional and global fish markets creates ideal conditions for large-scale IUU activity. Global estimates of IUU fishing losses range from 11 to 26 million tonnes annually, representing approximately 15 to 35 percent of total global marine fish catch, with an economic value of approximately 10 to 23 billion US dollars per year. For developing coastal states like Bangladesh, the losses from IUU fishing represent not merely an economic cost but a fundamental challenge to the governance of sovereign resources.

The specific dimensions of IUU fishing in Bangladesh's Marine Fisheries Waters can be categorised according to the standard FAO typology. Illegal fishing includes fishing by domestic vessels without valid licences, fishing in closed areas or during closed seasons, fishing with prohibited gear, and fishing by foreign vessels without authorisation. Unreported fishing includes the systematic under-reporting of catches in fishing vessel logbooks and in landing statistics, which is pervasive in Bangladesh's domestic trawler fleet. Unregulated fishing includes fishing by vessels operating under flags of convenience outside the RFMO framework, and fishing by small-scale vessels below the threshold for VMS requirements that is technically legal but not subject to any monitoring.

Foreign IUU fishing in Bangladesh's EEZ is reported by the Bangladesh Coast Guard and the Bangladesh Navy in their annual law enforcement statistics, but the true scale is likely much greater than the reported enforcement actions suggest. Indian fishing vessels operating in the grey area between the two countries' EEZs, and occasionally penetrating into Bangladesh's EEZ, are a regular source of diplomatic tension between Bangladesh and India. Myanmar-flagged vessels and, more concerningly, China-flagged vessels operating under flags of convenience have been reported fishing in Bangladesh's EEZ and adjacent high seas areas. The legal characterisation of these activities is governed by Articles 73 and 111 of UNCLOS, which specify the conditions under which the coastal state may exercise enforcement jurisdiction against foreign fishing vessels in the EEZ, and the rights of foreign vessels in the EEZ.

The domestic IUU fishing problem is in many respects more serious than the foreign IUU problem, because domestic IUU fishing is more difficult to separate from legal fishing and

because it involves the same fishing communities whose livelihoods the law is meant to protect. The systematic under-reporting of catch is a structural feature of Bangladesh's fisheries data system, driven by the incentive to minimise reported catch in order to reduce fees and taxes, by the lack of observer coverage on fishing vessels, and by the absence of independent dockside weighing systems. Studies comparing catch statistics from landing surveys with the estimates derived from VMS data and research surveys have consistently found that official catch statistics underestimate actual catch by a factor of two or more for some major commercial species.

The legal and institutional responses to IUU fishing require a multi-layered approach that combines flag state responsibilities, coastal state enforcement, port state measures, and market-based incentives. Bangladesh's Marine Fisheries Act of 2020 addresses all of these dimensions in general terms, but the specific instruments needed for effective implementation are largely absent. The establishment of a Fisheries Monitoring Centre with full VMS coverage of the licensed fishing fleet is a step forward, but the Centre's capacity to process and respond to VMS data in real time, to cross-reference VMS data with landing reports and logbooks, and to identify patterns of suspicious behaviour indicative of IUU fishing is limited. The expansion of observer coverage on commercial fishing vessels, which is the most direct method of independently verifying reported catches, is minimal.

The application of catch documentation and traceability systems, which track individual fish products from the point of capture through the supply chain to the final consumer, is increasingly used in developed country fisheries as a market-based tool for combating IUU fishing by making it difficult to sell illegally caught fish in regulated markets. Several international buyers of Bangladesh's marine fish exports, particularly the European Union and the United States, have introduced requirements for seafood traceability that effectively impose a form of market-based IUU control on Bangladesh's export fisheries. The EU's IUU Regulation, which entered into force in 2010, requires that all seafood imported into the EU be accompanied by a catch certificate demonstrating that it was caught legally, by a vessel operating under a valid licence, in accordance with the laws of its flag state and any applicable conservation and management measures. Bangladesh has made progress in meeting the requirements of the EU IUU Regulation, which is reflected in its continued market access for marine fish exports to the EU, but maintaining this compliance requires ongoing investment in certification systems and enforcement capacity.

5.2 The Constitutional and Sovereign Dimensions of EEZ Enforcement

The enforcement of Bangladesh's fisheries laws in the Exclusive Economic Zone raises complex questions of constitutional law, administrative law, and international law that are not fully worked out in the existing legal framework. The fundamental question is: what powers does Bangladesh have to enforce its fisheries laws against foreign fishing vessels in the EEZ, and what procedural and substantive constraints apply to the exercise of those powers?

UNCLOS Article 73 provides the primary legal framework for EEZ fisheries enforcement. It permits the coastal state to take measures including boarding, inspection, arrest, and judicial proceedings against vessels suspected of violating its EEZ fishing laws and regulations. However, it imposes several important constraints: arrested vessels and their crews must be

promptly released upon the posting of a reasonable bond or other security; the penalties imposed may not include imprisonment in the absence of agreements to the contrary with the flag state; in the case of fish stocks shared between EEZs, fishing vessels may only be boarded when not in innocent passage; and the coastal state must promptly notify the flag state of any action taken.

The prompt release obligation of Article 73(2) has been the subject of significant jurisprudential development in ITLOS, which has issued a number of judgments in prompt release cases under Article 292 of UNCLOS. The ITLOS cases have established that the reasonableness of the bond required for prompt release is to be assessed by reference to the gravity of the alleged offence, the penalties imposed by the national law, the value of the seized vessel and cargo, and other relevant factors. These cases are directly relevant to Bangladesh's fisheries enforcement practice, since the level of bonds required for the release of arrested foreign fishing vessels and their crews has been contested in several bilateral incidents.

The constitutional dimensions of EEZ enforcement in Bangladesh include the question of whether the powers conferred by the Marine Fisheries Act of 2020 on fisheries officers, naval officers, and coast guard officers for boarding, inspecting, and arresting vessels in the EEZ are consistent with the constitutional guarantees of due process, including the rights against arbitrary arrest and detention guaranteed by Articles 31 and 32 of the Constitution of Bangladesh. The Supreme Court of Bangladesh has not yet addressed this question directly, but it has in other contexts affirmed that international human rights standards and constitutional guarantees of due process must be applied consistently even in the context of maritime law enforcement, and that the constitutional provisions must be interpreted in a manner consistent with Bangladesh's international legal obligations.

The political dimensions of EEZ enforcement against Indian fishing vessels are particularly sensitive, given the complex and multidimensional nature of the Bangladesh-India bilateral relationship. The grey area created by the 2014 PCA award, in which Bangladesh has continental shelf rights but India has EEZ rights, creates a zone of particularly complex jurisdictional overlap that could generate incidents requiring careful legal and diplomatic management. A bilateral fisheries agreement between Bangladesh and India, addressing the grey area and establishing clear rules for enforcement in the vicinity of the boundary, would provide greater legal certainty and reduce the risk of enforcement incidents that could damage the bilateral relationship.

5.3 The Crime-Fisheries Nexus: Maritime Crime, IUU Fishing, and Security Law

The relationship between IUU fishing and other forms of maritime crime is an increasingly recognised dimension of fisheries governance that has significant implications for Bangladesh's legal framework. Research by the UN Office on Drugs and Crime and other bodies has demonstrated strong correlations between IUU fishing and other forms of maritime criminality, including drug trafficking, human trafficking, arms smuggling, and document fraud. The networks and vessels used for IUU fishing often overlap with those used for other criminal activities, and the proceeds of IUU fishing may be laundered through the same financial systems used for other forms of organised crime.

The legal framework for addressing this crime-fisheries nexus in Bangladesh sits at the intersection of fisheries law, criminal law, maritime security law, and anti-money laundering law. The Marine Fisheries Act of 2020 does not explicitly address the nexus between IUU fishing and organised crime, and the coordination between fisheries enforcement authorities and law enforcement authorities responsible for organised crime is limited. The Anti-Money Laundering Act of 2012 (as amended) and the Prevention and Suppression of Human Trafficking Act of 2012 are theoretically applicable to proceeds of IUU fishing, but there is little evidence of their systematic application in the fisheries context.

The development of an integrated maritime crime enforcement framework that brings together fisheries enforcement, maritime security, anti-money laundering, and customs and immigration control under a coordinated institutional structure is an important element of the comprehensive reform agenda. Several regional frameworks, including the Indian Ocean Commission's Maritime Security Programme and the UNODC's Indian Ocean Forum on Maritime Crime, provide models for such integrated approaches that Bangladesh could adapt to its specific circumstances.

CHAPTER 6: SMALL-SCALE FISHERIES, COMMUNITY RIGHTS, AND PARTICIPATORY GOVERNANCE

6.1 The Scale and Significance of Small-Scale Fisheries in Bangladesh

Small-scale fisheries are the backbone of Bangladesh's marine fishing sector. The approximately 700,000 artisanal and small-scale fishing households operating in Bangladesh's coastal zone represent the vast majority of the country's marine fishing effort by number of vessels and by number of fishers, though a smaller proportion of total catch by weight. These households, concentrated in the coastal districts of Chittagong, Cox's Bazar, Noakhali, Bhola, Barisal, Pirojpur, and Satkhira, are among the most economically and socially vulnerable populations in Bangladesh, with poverty rates significantly above the national average and high exposure to the risks of cyclones, tidal surges, and other climate-related hazards.

The social profile of small-scale fishing communities in Bangladesh is characterised by several features that are directly relevant to the legal design of fisheries governance. The communities are predominantly organised around kinship and caste-based social structures, with specific fishing communities such as the Jaladas traditionally associated with specific coastal locations and fishing practices. There is a strong gendered division of labour, with men typically responsible for the actual fishing operations and women responsible for fish drying, processing, trading, and household management. Access to fishing grounds, gear, and credit is often mediated through patron-client relationships between boat owners and fishers that create economic dependency and limit the bargaining power of labourers within the fishery.

The International Labour Organisation has estimated that the global small-scale fisheries sector provides the primary source of livelihood for an estimated 600 million people, primarily in developing countries. The FAO estimates that small-scale fisheries account for approximately 40

percent of global marine fish production and more than half of the fish production destined for direct human consumption. These statistics underscore the importance of small-scale fisheries not only as an economic activity but as a critical contributor to global food security and nutrition.

6.2 The FAO Small-Scale Fisheries Guidelines and Their Legal Implications for Bangladesh

The FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted by the FAO Committee on Fisheries in June 2015, represent the most comprehensive international normative framework for the governance of small-scale fisheries. The Guidelines were developed through a lengthy participatory process that included extensive consultations with fishing communities, governments, civil society organisations, and academic experts, and they reflect the principle that the governance of small-scale fisheries must be rooted in the rights and needs of fishing communities rather than imposed on them from above.

The Small-Scale Fisheries Guidelines address a wide range of governance issues, organised under four main headings: responsible governance, social development and cultural heritage, value chains and post-harvest, and the enabling environment. On the question of tenure rights, the Guidelines call on states to recognise, respect, and protect the customary and traditional rights of small-scale fishing communities to use and manage fisheries resources, and to take specific measures to prevent the displacement of small-scale fishers from traditional fishing grounds. On social development, they call for the integration of small-scale fisheries into social protection systems, access to health and education services, and the promotion of gender equality in fisheries governance. On the enabling environment, they call for the development of legal and institutional frameworks that specifically address the needs of small-scale fishers, the provision of legal aid and dispute resolution mechanisms, and the elimination of corruption and discriminatory practices.

The legal implications of the Small-Scale Fisheries Guidelines for Bangladesh are substantial. The Guidelines are not binding in international law, but they represent the consensus of the international community on responsible governance of small-scale fisheries, and Bangladesh's endorsement of them through its membership in the FAO Committee on Fisheries creates a political and moral commitment that should be translated into domestic law. The Bangladesh Marine Fisheries Management Plan for Artisanal Fisheries 2024-2027, developed in alignment with the Guidelines, represents a step in this direction, but it is a non-legislative planning instrument and its legal force is limited. A comprehensive fisheries law reform should include specific statutory provisions implementing the core requirements of the Small-Scale Fisheries Guidelines.

6.3 Tenure Rights, Traditional Access, and the Displacement of Small-Scale Fishers

One of the most serious governance challenges facing small-scale fishing communities in Bangladesh is the threat of displacement from traditional fishing grounds by the expansion of industrial fishing, aquaculture, tourism, and other coastal development activities. This displacement is not a hypothetical future risk; it is already occurring in several coastal areas

where industrial shrimp aquaculture has replaced traditional fishing grounds with brackish water ponds, where coastal industrial zones have displaced fishing settlements, and where the expansion of industrial trawler operations into nearshore areas traditionally managed by artisanal fishers has created severe conflicts over access to fish stocks.

The legal framework for the protection of small-scale fishers' access rights in Bangladesh is weak. The Marine Fisheries Act of 2020 establishes a zoning system that is intended to separate the fishing activities of different fleet segments by allocating different zones to artisanal and industrial vessels, but the implementation of this zoning system has been inconsistent and the zones have not been effectively enforced. The conflict between industrial trawlers and artisanal fishers is a persistent and well-documented source of tension in Bangladesh's coastal zone, and the legal mechanisms for resolving these conflicts are inadequate.

The jurisprudence of international human rights law on the rights of marginalised communities to their traditional livelihoods is potentially relevant to the protection of small-scale fishers' access rights in Bangladesh. The Committee on Economic, Social and Cultural Rights, in its General Comments on the right to food (General Comment 12) and the right to water (General Comment 15), has confirmed that states have an obligation not only to ensure access to food and water as end products but to protect the livelihoods of communities whose food security depends on access to specific resources including fisheries. The Committee on the Elimination of Racial Discrimination has, in its consideration of Bangladesh's periodic reports, noted concerns about the situation of marginalised ethnic communities in the coastal zone, including fishing communities, and has called for measures to protect their rights against displacement and marginalisation.

The application of indigenous peoples' rights framework to fishing communities in Bangladesh is a complex question. Bangladesh does not officially recognise the fishing communities of the coastal zone as indigenous peoples in the international law sense, though several of these communities, including the Jaladas and the Rakhain, have customary relationships with specific territories and resources that are characteristic of indigenous peoples as defined in ILO Convention 169. The recognition of these communities' collective rights to fisheries resources, consistent with the principles of Free, Prior and Informed Consent (FPIC) developed in the indigenous peoples' rights framework, would significantly strengthen the legal protection of their access to traditional fishing grounds.

6.4 Co-Management as a Legal Framework: Theory and Practice

Co-management of fisheries, involving the shared governance of fishery resources between the state and fishing communities, has been widely advocated as a more effective and equitable approach to fisheries governance than either pure state regulation or pure community self-governance. The theoretical foundation of co-management draws on Ostrom's analysis of successful common-pool resource institutions, which found that the most effective governance systems combined clear rules and boundaries, participatory rule-making, effective monitoring, and graduated sanctions, while being adapted to local ecological and social conditions. Co-management attempts to combine the strengths of state regulation, including legislative authority, enforcement capacity, and scientific expertise, with the strengths of community

governance, including local knowledge, social legitimacy, low transaction costs, and motivation for sustainable management.

The legal framework for co-management in Bangladesh's fisheries governance is nascent. The Marine Fisheries Act of 2020 contains provisions for the involvement of fishing communities in fisheries management through the establishment of Fisheries Management Advisory Committees and through consultation requirements in the preparation of fisheries management plans. However, these provisions do not give fishing communities genuine shared authority over fisheries management decisions; they give communities an advisory role while retaining decision-making authority with the Department of Fisheries.

The Bangladesh Marine Fisheries Management Plan for Artisanal Fisheries 2024-2027, developed with BOBP-IGO support, explicitly identifies the establishment of an effective co-management process for fisheries management decision-making as a primary governance objective. The Plan proposes the development of nationally owned National Plans of Action dedicated to small-scale fisheries, building on the regional roadmap presented by BOBP-IGO to the FAO Sub-Committee on Fisheries Management in 2026. However, the legal framework needed to give these proposals statutory force is not yet in place.

The design of effective co-management arrangements requires attention to several legal dimensions that are specific to the Bangladesh context. The legal personality and accountability of community organisations participating in co-management is a threshold question: what legal form should a fishers' co-management organisation take, and what powers can be delegated to it under the existing legal framework? The relationship between co-management arrangements and the formal licensing system is another important question: should co-management bodies have the authority to allocate fishing rights within their designated areas, or should this authority remain exclusively with the state? The dispute resolution mechanisms for conflicts within and between co-management bodies, and between co-management bodies and the state, must also be clearly specified.

6.5 Gender, Fisheries, and the Law: The Invisible Half of the Fishing Sector

The gendered dimensions of fisheries governance in Bangladesh are profound and systematically underaddressed in the legal framework. Women in coastal fishing communities in Bangladesh play central roles in the fisheries economy, from post-harvest processing and value addition to the management of financial resources, the maintenance of social networks, and the education and care of children. The dried fish (shutki) processing industry, which is a major component of Bangladesh's marine fisheries economy, is predominantly run by women. Women also play critical roles as fish traders in the local markets of coastal towns and villages.

Yet women are almost entirely absent from the formal institutions of fisheries governance. The governance bodies established under the Marine Fisheries Act of 2020, including the Fisheries Management Advisory Committees, do not have specific gender representation requirements. The licensing system for fishing vessels registers the licence in the name of the vessel owner, who is almost invariably male, and takes no account of the labour contributions of women to the fishing household economy. The fisheries data collection system collects information about

fishing vessels and their operators but not about the broader fishing household economy in which women's labour is essential.

The feminist international relations theory, in its application to the law of the sea and fisheries governance, provides a framework for understanding the structural nature of this invisibility. The dominant paradigms of international maritime law and fisheries governance are constructed around the figure of the male fish harvester as the primary subject of legal rights and obligations, and this construction is not merely descriptive but normative: it defines whose interests count in governance decisions and whose are marginalised. The feminist critique does not merely call for the inclusion of women in existing governance structures; it challenges the fundamental assumptions about what counts as fisheries labour, whose knowledge matters in fisheries management, and whose interests the law should protect.

The practical implications of this feminist critique for Bangladesh's fisheries law reform are specific and actionable. The Marine Fisheries Act should be amended to require gender-balanced representation in all fisheries governance bodies, including Fisheries Management Advisory Committees and co-management organisations. The fisheries licensing system should be redesigned to recognise the collective nature of fishing household enterprises and to give legal recognition to the rights and interests of all household members, regardless of gender. The fisheries data collection system should be expanded to document women's contributions to the fisheries economy, including post-harvest activities, as a basis for governance decisions that affect women's livelihoods.

CHAPTER 7: THE HILSA SHAD: A LEGAL CASE STUDY IN THE GOVERNANCE OF A NATIONALLY ICONIC SPECIES

7.1 The Hilsa as a Legal and Cultural Subject

The hilsa shad (Tenualosa ilisha) occupies a unique position in Bangladeshi culture, cuisine, and national identity that has no equivalent in any other country's relationship to a single fish species. The hilsa is the national fish of Bangladesh. It is the centrepiece of the cuisine of Bengali culture, its silver sides and distinctive flavour the subject of poetry, legend, and passionate culinary devotion across both Bangladesh and West Bengal in India. Its seasonal abundance in the rivers of Bengal, and its dramatic migration from the sea to the freshwater reaches of the Padma, Meghna, and other rivers, has structured the calendar of coastal and riverine life in Bengal for centuries.

This cultural and symbolic significance of the hilsa creates both specific governance challenges and specific governance opportunities that illustrate the broader tensions in Bangladesh's fisheries law framework in a particularly vivid way. The governance challenges arise because the cultural importance of the hilsa generates enormous demand for the species both within Bangladesh and in the export market, particularly in West Bengal in India where it commands premium prices, creating intense fishing pressure at every stage of the species' complex life cycle. The governance opportunities arise because the cultural salience of the hilsa makes it

politically feasible to impose conservation measures that would be much more difficult to enforce for less iconic species, as demonstrated by the relative effectiveness of Bangladesh's hilsa management measures compared to the generally poor conservation performance of its fisheries sector as a whole.

The legal framework specifically addressing the hilsa has evolved significantly over the past two decades. The most important element of this framework is the seasonal ban on hilsa fishing during the spawning season, which was first introduced in the 1990s and has been progressively strengthened in subsequent years. The current framework prohibits the catching, landing, and sale of hilsa below a specified minimum size (25 centimetres), prohibits hilsa fishing in designated hilsa sanctuary areas throughout the year, and imposes a blanket ban on hilsa fishing in the Bay of Bengal and in specified rivers during the annual spawning season, which typically runs for twenty-two days in October and November.

The implementation and enforcement of the hilsa management framework illustrates both the potential and the limitations of Bangladesh's fisheries governance capacity. Studies conducted by BFRI and FAO have consistently found that the seasonal ban, when effectively enforced, produces measurable increases in hilsa catch in subsequent seasons, demonstrating the biological effectiveness of the measure. However, enforcement compliance is highly variable across regions and years, dependent on the resources and motivation of fisheries officers and law enforcement agencies. The social protection component of the management framework, which provides food assistance and alternative income support to fishing households during the ban period, has been important in securing the political legitimacy of the measure.

The jurisprudential dimensions of the hilsa management framework include interesting questions about the relationship between administrative regulation and constitutional rights. Fishing households that depend on the hilsa as their primary livelihood may argue that the imposition of the seasonal ban without adequate compensation constitutes an unjustified restriction on their constitutional right to a livelihood under Article 20 of the Constitution of Bangladesh. The constitutional case law on property rights and livelihoods, developed primarily in the context of terrestrial land use regulation, has not yet been extensively applied to the fisheries context, but the principles it establishes, including the proportionality principle and the requirement for reasonable compensation for lawfully imposed restrictions on economic activity, are potentially applicable.

7.2 The Trans-Boundary Dimension: Hilsa Conservation as Regional Legal Challenge

The hilsa shad is a highly migratory species that spans international boundaries in its migrations between the Bay of Bengal and the river systems of Bangladesh and northeastern India. The Padma-Ganges system connects the hilsa's marine feeding grounds to spawning and nursery habitats in rivers that flow through both Bangladesh and the Indian states of West Bengal and Bihar. The conservation and management of the hilsa therefore cannot be fully addressed by domestic law alone; it requires international cooperation between Bangladesh and India.

The International Framework for hilsa conservation is currently thin. The UNCLOS framework for straddling stocks (Article 63) requires Bangladesh and India to seek to agree on conservation

measures for shared hilsa stocks, but there is no specific bilateral agreement on hilsa management between the two countries. There have been informal communications between the fisheries authorities of Bangladesh and West Bengal on the question of coordinating closed seasons and minimum size regulations, but these have not produced a formal legal instrument.

The development of a bilateral hilsa conservation agreement between Bangladesh and India would be a significant achievement for regional fisheries governance and would serve as a model for cooperation on other shared fish stocks in the Bay of Bengal. Such an agreement would need to address the scientific basis for management decisions, including a jointly agreed stock assessment framework; the harmonisation of regulatory measures, including closed seasons, minimum sizes, and gear restrictions; the coordination of enforcement actions in the river systems and the coastal zone; and the social protection measures needed to support fishing communities during conservation periods. The BIMSTEC framework, which includes both Bangladesh and India as member states, provides an appropriate institutional forum for the development and negotiation of such a bilateral agreement.

The legal character of a hilsa conservation agreement between Bangladesh and India would be a significant question in itself. The agreement could take the form of a treaty, which would be subject to ratification by both countries' parliaments and would have the full force of international law. Alternatively, it could take the form of a memorandum of understanding or other non-binding instrument, which would be more flexible but less legally certain. Given the importance of the hilsa to both countries and the need for long-term institutional commitment to its conservation, a binding treaty would be the preferable legal form.

CHAPTER 8: CLIMATE CHANGE, OCEAN TRANSFORMATION, AND THE LEGAL OBLIGATIONS OF BANGLADESH IN FISHERIES GOVERNANCE

8.1 The Climate-Fisheries Nexus in the Bay of Bengal

The impacts of climate change on marine fisheries in the Bay of Bengal are already being observed and documented, and they are projected to intensify significantly in the coming decades. Sea surface temperature in the Bay of Bengal has increased by approximately 0.6 to 0.8 degrees Celsius over the past century, with accelerating warming observed in the most recent decades. Ocean acidification, caused by the absorption of atmospheric carbon dioxide, is reducing the pH of Bay of Bengal waters at a rate that threatens the calcification processes of shell-forming organisms and coral communities. Sea-level rise is inundating coastal wetlands and mangrove habitats that serve as critical nursery areas for juvenile fish and shrimp. Changes in monsoon patterns are altering the timing and intensity of the freshwater discharge that drives the nutrient cycling processes sustaining the Bay of Bengal's extraordinary productivity.

The impacts of these physical changes on fish stocks and fisheries are complex and species-specific. For the hilsa shad, whose migration is triggered by changes in water temperature and salinity, warming and altered precipitation patterns are affecting the timing and extent of the upstream spawning migration, with potentially severe consequences for spawning success and

recruitment. For demersal species like the croaker and threadfin bream that dominate the trawl fishery catch, oxygen depletion in the deeper layers of the Bay of Bengal, driven by warming and stratification, is reducing available habitat and concentrating fishing effort in shallower, more accessible zones. For pelagic species like mackerel and sardines, changes in ocean circulation patterns are altering the distribution and abundance of the plankton communities on which they depend.

The 2025 RV Dr. Fridtjof Nansen ecosystem survey, the second such comprehensive survey of Bangladesh's marine waters, provided updated data on the distribution and abundance of fish stocks that will be essential for understanding how climate change is affecting the Bay of Bengal's living resources. Early analysis of the survey data suggests significant changes in species distribution since the first survey, with some species showing range shifts toward deeper, cooler waters and others showing changes in the timing of seasonal abundance patterns. These findings will be critical inputs into the climate-adaptive fisheries management framework that Bangladesh needs to develop.

8.2 The Legal Implications of the 2024 ITLOS and 2025 ICJ Advisory Opinions for Fisheries Governance

The 2024 ITLOS Advisory Opinion (ITLOS Case No. 31, 21 May 2024) and the 2025 ICJ Advisory Opinion on Obligations of States in Respect of Climate Change (Advisory Opinion of 23 July 2025) together establish a legal framework of international obligations relating to climate change and the marine environment that has direct and significant implications for Bangladesh's fisheries governance.

The ITLOS Advisory Opinion confirmed that anthropogenic greenhouse gas emissions constitute pollution of the marine environment within the meaning of Article 1(1)(4) of UNCLOS, and that states have due diligence obligations under Part XII of UNCLOS to take all necessary measures to prevent, reduce, and control such pollution. The Tribunal identified several specific obligations applicable to GHG emissions: the obligation to adopt legislation to prevent, reduce, and control marine pollution from GHGs; the obligation to take measures necessary to prevent, reduce, and control such pollution; the obligation to implement international rules and standards concerning GHG emissions affecting the marine environment; and the obligation to cooperate with other states in developing and implementing such measures.

The ITLOS Advisory Opinion further confirmed that developing states have the same obligations regarding environmental protection as developed states, but that states with greater means and capabilities must do more to reduce emissions than states with less means and capabilities. This formulation, drawing on the principle of common but differentiated responsibilities, creates a graduated framework of obligation that acknowledges Bangladesh's limited contribution to global GHG emissions while maintaining its legal obligations under UNCLOS.

The 2025 ICJ Advisory Opinion went further than ITLOS in several important respects. The ICJ confirmed that the 1.5 degree Celsius temperature target of the Paris Agreement is legally binding, and that states are obliged to adopt nationally determined contributions reflecting their highest possible ambition in alignment with this target. The Court confirmed the existence of a

customary international law duty on states to cooperate with each other in good faith to prevent significant harm to the climate system, applicable to all states regardless of whether they are parties to the Paris Agreement. And the Court confirmed that states have an obligation to phase out subsidies that harm the environment, which in the fisheries context includes the substantial fisheries subsidies that many states provide to their commercial fishing fleets and that contribute to overcapacity and overfishing.

For Bangladesh, the combined implications of the ITLOS and ICJ Advisory Opinions are significant across multiple dimensions of fisheries governance. First, Bangladesh has obligations under UNCLOS, as interpreted by ITLOS, to take measures to prevent, reduce, and control the marine pollution caused by GHG emissions from its fisheries sector, including emissions from fishing vessels and from the processing and transport of fish products. This requires the integration of greenhouse gas reduction measures into the fisheries regulatory framework, including emissions standards for fishing vessels, incentives for the adoption of low-emissions propulsion technologies, and carbon accounting for the fisheries supply chain.

Second, Bangladesh has obligations under both UNCLOS and the Paris Agreement to adapt its fisheries management framework to the impacts of climate change on marine living resources. This requires the development of climate-resilient fisheries management plans that incorporate climate projections into stock assessments, that adjust catch limits in response to observed and projected climate impacts, and that invest in the restoration of critical marine habitats that provide resilience to climate change, including mangrove forests and coral communities.

Third, the ICJ's confirmation that states have obligations to phase out environmentally harmful subsidies applies specifically to fisheries subsidies that contribute to overcapacity and overfishing in Bangladesh's marine fisheries. Bangladesh's subsidy programme for the diesel fuel used by fishing vessels, which effectively subsidises the expansion of fishing effort beyond sustainable limits, needs to be reviewed in light of this obligation and redesigned to target support toward sustainable fishing practices and the welfare of small-scale fishing communities rather than the expansion of industrial fishing capacity.

8.3 Climate Change Adaptation in Fisheries Law: The Architecture of a Legal Framework

The legal architecture of climate change adaptation in fisheries governance is a relatively new field of international and domestic law, but it is developing rapidly in response to the growing recognition of climate change as a fundamental challenge to the sustainability of fisheries and the security of fishing-dependent communities. The key elements of a legal framework for climate-adaptive fisheries governance include: climate-sensitive stock assessment and management planning; adaptive management principles in fisheries regulations; the protection and restoration of climate refugia and critical habitats; the social protection of fishing communities from climate-induced livelihood disruptions; and the integration of fisheries governance with broader climate adaptation planning.

Bangladesh's National Adaptation Plan (NAP) and Nationally Determined Contribution (NDC) under the Paris Agreement contain provisions on the fisheries sector, recognising it as a sector of high climate vulnerability and identifying adaptation measures including the development of

climate-resilient fishing practices, the improvement of early warning systems for extreme weather events, and the investment in alternative livelihood programmes for fishing communities. However, these provisions are not translated into specific legal obligations in the domestic fisheries legislation, creating a gap between the country's international climate commitments and its domestic legal framework.

The integration of climate change adaptation into Bangladesh's fisheries legal framework requires several specific legislative changes. The Marine Fisheries Act should be amended to require that fisheries management plans include climate vulnerability assessments and climate adaptation strategies, based on the best available climate projections from the IPCC and from regional climate modelling initiatives. The Act should also require the periodic review and revision of allowable catch levels in response to observed changes in stock abundance and distribution attributable to climate change. And it should provide for the designation of climate refugia, areas where habitat quality and environmental conditions are projected to remain favourable under climate change scenarios, as protected areas where fishing effort is restricted in order to maintain resilient fish populations.

The concept of climate refugia as a governance tool in fisheries law deserves careful legal analysis. The designation of refugia as protected areas involves a restriction on the freedom of fishing in those areas, which affects the livelihoods of fishers who have historically operated in them. This restriction must be justified in legal terms, both as a matter of constitutional law under Bangladesh's legal system and as a matter of the proportionality principles applicable to restrictions on economic rights. The justification for such restrictions is that the long-term protection of fish stocks and the ecosystem services they provide is essential to the survival of the fishery itself and to the food security of the communities that depend on it, and that the temporary sacrifice of access to specific areas is proportionate to the long-term benefit to all. This is a version of the argument from sustainable development, understood not as the accommodation of environment and development but as the recognition that environmental sustainability is the precondition of long-term development.

CHAPTER 9: THE BLUE ECONOMY, FISHERIES SUSTAINABILITY, AND THE TENSIONS OF DEVELOPMENT

9.1 The Blue Economy Strategy and Its Implications for Fisheries

The blue economy strategy of Bangladesh, articulated in the government's Vision 2041 and in various sectoral policy documents, represents an ambitious programme for the development of marine and coastal resources as a driver of economic growth. The strategy envisions the development of offshore hydrocarbon resources, the expansion of marine aquaculture, the development of maritime shipping and port services, the growth of coastal tourism, and the growth of marine biotechnology and bioprospecting. Fisheries are identified as one of the core sectors of the blue economy, with ambitious targets for the expansion of both capture fisheries and aquaculture production.

The tensions between the blue economy strategy and the requirements of sustainable fisheries management are, however, considerable. The evidence from comparable fisheries around the world is that capture fisheries production cannot be expanded beyond the biologically sustainable level without causing stock collapse and long-term decline in catches, however strong the economic incentive to do so. The MSY framework, which Bangladesh is legally obligated to apply under UNCLOS, effectively sets a ceiling on sustainable capture fisheries production. The blue economy strategy's fisheries targets must therefore be assessed against the available scientific evidence on MSY for the major commercial species in Bangladesh's EEZ, and targets that exceed sustainable levels must be revised.

The expansion of marine aquaculture, which is a central element of the blue economy strategy, raises a different set of legal and environmental issues. Coastal shrimp aquaculture has already caused significant environmental damage in Bangladesh's coastal zone, including the conversion of mangrove forests to aquaculture ponds, the salinisation of agricultural land, and the displacement of fishing and farming communities. The development of offshore aquaculture in the EEZ, which is a newer and technically more demanding form of production, has the potential to expand fish and shellfish production substantially beyond what capture fisheries can sustainably provide, but it requires careful environmental regulation to prevent the impacts of waste, disease, escaped genetic material, and habitat modification on the marine ecosystem.

The regulatory framework for marine aquaculture in Bangladesh's EEZ is currently inadequate. The Marine Fisheries Act of 2020 contains provisions for the regulation of aquaculture in Bangladesh's Marine Fisheries Waters, but these provisions are not elaborated in the implementing regulations, and there is no specific framework for the environmental impact assessment, licensing, and monitoring of offshore aquaculture operations comparable to those in place in countries with more developed offshore aquaculture sectors such as Norway, Scotland, and Canada.

9.2 The Marine Spatial Planning Framework: An Absent Architecture

Marine spatial planning (MSP) is a process that governs who can use the sea, where they can use it, and how. It is the marine equivalent of terrestrial land-use planning, and it is essential for managing the increasingly complex mosaic of human uses of Bangladesh's maritime zones, including fisheries, aquaculture, shipping, oil and gas exploration, submarine cables, wind energy, tourism, and nature conservation. MSP provides the spatial framework within which the various sectoral legal regimes, including fisheries law, environmental law, energy law, and navigation law, can be coordinated and integrated.

Bangladesh currently has no national marine spatial planning framework. This is a significant institutional and legal gap, given the multiple and competing uses of its maritime zones and the potential for conflicts among them to undermine both economic development and environmental sustainability. The blue economy strategy's ambitions for the simultaneous development of fisheries, aquaculture, hydrocarbons, shipping, and tourism in Bangladesh's EEZ cannot be realised without a spatial planning framework that allocates sea areas to compatible uses, manages conflicts among incompatible uses, and protects the areas of highest ecological value from all development activities.

The development of a legal framework for MSP in Bangladesh requires primary legislation that establishes the competent authority for marine spatial planning, the process for the preparation, adoption, and review of marine spatial plans, the legal effect of such plans on licensing decisions under sectoral laws, and the rights of stakeholders including fishing communities to participate in the planning process. The European Union's Maritime Spatial Planning Directive of 2014 provides a useful model for the legislative design of an MSP framework, though it will need significant adaptation to Bangladesh's very different institutional context. Several BIMSTEC member states, including India and Sri Lanka, are in the process of developing MSP frameworks, and regional coordination through BIMSTEC on cross-border spatial planning considerations would be valuable.

9.3 Marine Protected Areas as a Tool of Fisheries Conservation

Marine Protected Areas (MPAs) are defined areas of ocean managed to provide long-term protection for marine ecosystems and their associated species and habitats. The global MPA framework is governed by multiple international instruments, including the CBD's Aichi Biodiversity Targets, which called for the protection of at least ten percent of coastal and marine areas by 2020, and the Kunming-Montreal Global Biodiversity Framework adopted at COP15 in December 2022, which raised the target to thirty percent of land and sea areas by 2030 (the 30x30 target).

Bangladesh has made limited progress toward these targets. The Marine Fisheries Act of 2020 provides for the designation of Marine Protected Areas, and Bangladesh has designated a small number of coastal MPAs, most notably the Swatch of No Ground, a submarine canyon south of the Ganges-Brahmaputra delta mouth that has been protected as a marine reserve. However, the total area of Bangladesh's marine waters under some form of protection remains well below the CBD and Kunming-Montreal targets, and the management effectiveness of existing MPAs is limited by insufficient resources and regulatory capacity.

The development of an expanded and effectively managed MPA network in Bangladesh's EEZ is both a conservation imperative and an international legal obligation. The BBNJ Agreement of 2023, which establishes a framework for area-based management tools on the high seas, provides additional impetus for the development of MPA governance frameworks in adjacent national waters. The integration of the MPA network with the broader fisheries management framework, through provisions that link MPA boundaries and rules with the fishing effort allocation and spatial planning framework, is essential for MPAs to contribute effectively to fisheries conservation.

The legal status of MPAs under Bangladesh's domestic law raises interesting questions about the relationship between executive regulation and legislative mandate. The Marine Fisheries Act of 2020 provides broad authority for the government to designate MPAs by gazette notification, but the criteria for designation, the management planning requirements, the monitoring and enforcement standards, and the rights of existing users of designated areas are not adequately specified in the Act. A more detailed legal framework, including the procedural and substantive requirements for MPA designation and management, is needed to give the MPA system the legal certainty and institutional stability it requires.

CHAPTER 10: FISHERIES SUBSIDIES, INTERNATIONAL TRADE, AND THE LEGAL DIMENSIONS OF MARKET ACCESS

10.1 The WTO Agreement on Fisheries Subsidies

The Agreement on Fisheries Subsidies, adopted at the Twelfth WTO Ministerial Conference in Geneva in June 2022 and entering into force for early ratifiers, represents the first multilateral trade agreement specifically addressing fisheries subsidies and marks a significant development in the intersection of international trade law and fisheries governance. The Agreement prohibits subsidies to fishing vessels engaged in IUU fishing, to fishing vessels fishing in unregulated waters, and to subsidies that contribute to fishing on stocks that are already overfished. It also requires WTO members to notify their fisheries subsidies and creates a framework of disciplines on subsidies to fishing capacity.

Bangladesh is a WTO member and is therefore subject to the Agreement on Fisheries Subsidies once it has completed its ratification requirements. The Agreement has significant implications for Bangladesh's domestic subsidy policies in the fisheries sector. The fuel subsidy programme for fishing vessels, which provides subsidised diesel to both industrial and artisanal fishing boats, must be reviewed for compatibility with the Agreement. If Bangladesh is providing fuel subsidies to vessels that are fishing overfished stocks or that are engaged in any of the prohibited forms of subsidised fishing, those subsidies will need to be restructured or eliminated.

The ICJ Advisory Opinion of July 2025 confirmed that states have legal obligations to phase out subsidies that harm the environment, reinforcing the direction set by the WTO Agreement on Fisheries Subsidies. The combination of WTO trade law obligations and international environmental law obligations creates a powerful normative framework for the reform of Bangladesh's fisheries subsidies, and the legal reform of the Marine Fisheries Act should include provisions specifically addressing the compatibility of domestic fisheries subsidies with these international obligations.

10.2 The EU IUU Regulation and Its Implications for Bangladesh's Fish Exports

The European Union's Regulation (EC) No. 1005/2008, known as the EU IUU Regulation, entered into force on 1 January 2010 and imposes stringent requirements on third-country fishing vessels and exporting states seeking to supply fish products to the EU market. The Regulation requires that all marine fishery products imported into the EU be accompanied by a catch certificate validated by the flag state, confirming that the fish was caught legally in accordance with applicable laws and regulations and any applicable conservation and management measures. States found to be non-compliant with the IUU Regulation's requirements may receive a formal warning, and persistent non-compliance can lead to the EU imposing trade measures against the offending state's fisheries exports.

Bangladesh's fisheries export sector, which exports significant quantities of frozen shrimp and fish to the EU market, is directly affected by the IUU Regulation's requirements. Bangladesh has

developed a catch certification system in alignment with the Regulation's requirements, and it has maintained its market access to the EU fisheries market. However, the maintenance of this market access requires ongoing investment in the catch certification system, in the fisheries data and verification infrastructure that underpins it, and in the enforcement capacity that gives the certification meaningful credibility.

The EU's broader sustainability requirements for imported fisheries products, including the forthcoming EU Regulation on Deforestation-Free Products and the EU Farm to Fork Strategy's supply chain sustainability requirements, are creating new market access pressures that go beyond the IUU compliance framework. These developments signal a broader trend toward the mainstreaming of environmental and social sustainability standards in international fish trade, which Bangladesh's fisheries governance framework must adapt to maintain access to premium markets.

CHAPTER 11: INSTITUTIONAL ARCHITECTURE AND GOVERNANCE REFORM

11.1 The Current Institutional Landscape: Fragmentation and Its Costs

The governance of marine fisheries in Bangladesh is the responsibility of a large and fragmented set of government institutions, each with its own mandate, its own legislative basis, its own administrative culture, and its own relationship with the fishing industry and civil society. The principal institutions include the Ministry of Fisheries and Livestock, whose mandate covers both marine and inland fisheries and which is responsible for the overall policy framework; the Department of Fisheries, which is the primary regulatory authority for marine fisheries under the Marine Fisheries Act of 2020; the Bangladesh Fisheries Research Institute (BFRI), which is responsible for fisheries science and research; Petrobangla and its subsidiaries, which are responsible for hydrocarbon resources in the EEZ; the Bangladesh Navy and the Bangladesh Coast Guard, which are responsible for maritime law enforcement and patrol; the Ministry of Environment, Forests and Climate Change, which has jurisdiction over marine environmental protection and MPAs; the Ministry of Shipping, which governs maritime transport and port operations; and several other ministries and agencies with interests in specific aspects of maritime resource governance.

The fragmentation of institutional responsibility across this large number of agencies creates predictable and well-documented governance problems: coordination failures, regulatory gaps, overlapping jurisdictions, conflicting policies, and the absence of a single institution with the authority and capacity to provide strategic leadership for the integrated governance of Bangladesh's maritime resources. These problems are not unique to Bangladesh; they are a common feature of maritime governance in developing countries, where the institutional architecture was often built up incrementally and sector by sector without a coherent institutional design vision.

The specific institutional design problem in Bangladesh's fisheries governance can be illustrated by the case of offshore aquaculture regulation. An application to establish an offshore

aquaculture facility in Bangladesh's EEZ would require authorisation from the Department of Fisheries (under the Marine Fisheries Act), an environmental impact assessment from the Ministry of Environment (under the Environment Conservation Act), a site allocation approval from the authority responsible for maritime zones (currently under the Territorial Waters and Maritime Zones framework), potentially a safety clearance from the Bangladesh Navy or Coast Guard, and various other regulatory approvals from customs, immigration, and other agencies. There is no single authority that coordinates these approvals, no defined timetable for their completion, and no clear legal framework for resolving conflicts among them. The practical effect of this institutional fragmentation is to deter investment and to encourage informal development of aquaculture facilities outside the formal regulatory framework.

11.2 The Case for an Integrated Maritime Resource Authority

The establishment of an integrated maritime resource governance authority, with responsibility for the coordinated governance of all aspects of Bangladesh's maritime zone resources, including fisheries, hydrocarbons, minerals, aquaculture, and the marine environment, has been advocated by several Bangladeshi scholars and by international advisers familiar with the governance challenges of Bangladesh's maritime sector. This proposal has received increasing attention since the confirmation of Bangladesh's expanded maritime zone through the ITLOS and PCA awards, and it is consistent with the institutional models of several successful maritime governance jurisdictions including Australia's management of the Great Barrier Reef Marine Park, Norway's integrated Petroleum and Fisheries Directorate framework, and the Pacific Island countries' development of integrated ocean management authorities.

The legal architecture of such an integrated authority would need to address several critical design questions. Its constitutional basis would need to be clearly established, either as an independent statutory authority created by specific legislation or as a coordinating mechanism within the executive branch. Its mandate would need to be defined with sufficient specificity to distinguish it from the existing departmental responsibilities without creating new governance gaps. Its accountability mechanisms, including reporting to Parliament, review by independent auditors, and consultation with stakeholder groups including fishing communities, industry, and civil society, would need to be designed to ensure democratic accountability. And its relationship to the existing line ministries and agencies would need to be carefully negotiated to avoid the institutional conflicts that typically arise when new coordinating bodies are created without adequate authority to override the established interests of the agencies they are meant to coordinate.

The model of the Australian Ocean Authority, though developed in a very different political and institutional context, provides several useful design principles. The authority's success in coordinating the governance of Australia's maritime zones has been attributed to its clear statutory mandate, its political independence from individual sectoral ministries, its strong scientific advisory capacity, its extensive stakeholder consultation processes, and its transparent reporting and accountability framework. These principles are adaptable to Bangladesh's context, though the institutional design must reflect Bangladesh's parliamentary system, its administrative traditions, and the specific governance challenges of the Bay of Bengal.

11.3 Judicial Oversight of Fisheries Governance: The Role of Bangladesh's Courts

The role of Bangladesh's courts in the oversight of fisheries governance is an important dimension of the institutional architecture that receives insufficient attention in most legal analyses. The courts' jurisdiction to review administrative decisions of the Department of Fisheries and other maritime governance authorities, and to enforce compliance with the constitutional rights of fishing communities, provides an important check on executive discretion and a mechanism for vindicating the rights of individuals and communities affected by fisheries governance decisions.

Several significant judicial decisions by Bangladesh's Supreme Court have addressed aspects of fisheries and coastal resource governance. The Bangladesh Environmental Lawyers Association (BELA) v. Government of Bangladesh litigation has produced multiple judgments addressing the environmental dimensions of coastal development, including a landmark judgment on the environmental obligations of the government in the Sundarbans. The Bangladesh National Women Lawyers Association (BNWLA) litigation on the rights of coastal fishing women has raised important questions about gender discrimination in the allocation of fishing licences and access rights. These cases demonstrate both the courts' willingness to engage with complex environmental and social justice issues in the coastal zone and the limitations of judicial review as a mechanism for comprehensive fisheries governance reform.

The Supreme Court's jurisdiction to issue writs of mandamus requiring the government to perform its statutory duties is potentially highly relevant to the enforcement of Bangladesh's international fisheries management obligations. If the government fails to prepare fisheries management plans as required by the Marine Fisheries Act, fails to take the measures required by the Act to prevent IUU fishing, or fails to take the measures required by UNCLOS to maintain fish stocks at sustainable levels, a writ petition to the Supreme Court requiring the government to discharge these obligations would be legally available. The development of strategic litigation as a tool for fisheries governance reform, drawing on the model of public interest environmental litigation that has been effective in India and other South Asian jurisdictions, is an important complement to legislative and administrative reform.

CHAPTER 12: THE BIMSTEC FRAMEWORK AND REGIONAL FISHERIES GOVERNANCE

12.1 The BIMSTEC Fisheries Agenda: Institutional Development and Legal Architecture

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), which comprises Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand, is the principal regional organisation through which Bangladesh pursues its interest in the coordinated governance of Bay of Bengal fisheries. BIMSTEC's fisheries working group, which operates under the organisation's broader agenda on trade, connectivity, and sustainable development, has been developing a regional fisheries cooperation framework that addresses the management of shared fish stocks, the combating of IUU fishing, the harmonisation of fisheries

standards for regional trade, and the development of regional capacity for fisheries science and management.

The BIMSTEC Agreement on Maritime Transport Cooperation of 2025, ratified by India and others in the context of the sixth BIMSTEC Summit, while primarily addressing maritime transport connectivity, has significant indirect implications for fisheries governance, as it promotes the development of integrated regional supply chains for fish and other marine products and the harmonisation of port state control procedures across BIMSTEC member states. The second BIMSTEC Ports Conclave of July 2025, which focused on port-led industrialisation and digital integration, identified the fisheries sector as a priority for the development of integrated regional value chains and technology-enabled traceability systems.

The legal framework for BIMSTEC regional fisheries cooperation is, however, still under development. There is no BIMSTEC fisheries treaty or formal agreement, and the regional fisheries governance agenda is currently pursued primarily through voluntary technical cooperation and information exchange rather than through binding legal instruments. The development of a BIMSTEC Regional Fisheries Conservation and Management Agreement, modelled on the legal frameworks of successful RFMOs in other regions, would represent a significant advance in the governance of shared Bay of Bengal fish stocks and in the regional effort to combat IUU fishing.

Bangladesh, as the host of the BIMSTEC Secretariat and as the country most comprehensively dependent on Bay of Bengal fisheries, has both the strongest interest in and a special responsibility for the development of such a regional framework. The comprehensive fisheries law reform advocated in this Part should include specific provisions on Bangladesh's participation in regional fisheries governance arrangements and the domestic implementation of obligations arising from such arrangements.

12.2 The BOBP-IGO and Bangladesh's Bay of Bengal Governance Engagement

The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO), based in Chennai, India, is a specialised intergovernmental organisation established in 1999 with a mandate to promote fisheries development and management in the Bay of Bengal. Its member states include Bangladesh, India, the Maldives, and Sri Lanka, and it works in cooperation with the FAO, BIMSTEC, and other regional and international bodies.

BOBP-IGO's 2026 roadmap for small-scale fisheries governance reform in the Bay of Bengal region, presented to the FAO Sub-Committee on Fisheries Management in Reykjavik, identified several priority actions for Bangladesh, including the development of National Plans of Action for small-scale fisheries, the strengthening of fishers' organisations and co-management arrangements, the renewal of the fishing fleet (much of which is reaching the end of its operational life), and the improvement of safety at sea for artisanal fishing operations. These recommendations, while focused on small-scale fisheries, have broader implications for the overall reform of Bangladesh's fisheries governance framework.

The legal relationship between BOBP-IGO and Bangladesh's domestic legal framework is not clearly specified. Bangladesh's membership in BOBP-IGO creates obligations to participate in the organisation's programmes and to provide the data and information it requests, but it does not in itself create binding obligations to implement specific domestic governance reforms. The translation of BOBP-IGO's technical recommendations into legally enforceable domestic requirements is a function of Bangladesh's domestic legislative and regulatory process, and the comprehensive fisheries law reform is the appropriate vehicle for this translation.

CHAPTER 13: PHILOSOPHICAL CONTROVERSIES IN FISHERIES LAW: PROPERTY, COMMONS, SOVEREIGNTY, AND JUSTICE

13.1 The Property Theory of Fishing Rights

The philosophical questions surrounding the nature of property rights in fish stocks are among the most intellectually challenging in jurisprudence because they involve resources that are, in their natural state, fugitive and cannot be exclusively possessed until they are caught. The traditional common law principle, inherited from Roman law, holds that wild fish in the sea are res nullius, the property of no one, and become the property of the person who first reduces them to possession by catching them. This first possession theory of fishing rights, which Locke's labour theory of property reinforces by grounding ownership in the mixing of labour with the resource, has deep roots in legal tradition.

But the first possession theory, applied to a fishery, leads directly to the open access regime and the tragedy of the commons that Hardin described. If fishing rights are acquired simply by catching fish, and anyone is free to fish, then there is no legal mechanism to prevent the overexploitation that depletes the stock. The legal response to this problem, both in domestic and in international law, has been to replace the first possession regime with a system of government-allocated rights that determines who may fish, how much they may catch, and with what gear.

The philosophical controversy about the nature of these allocated rights is a lively one in the fisheries law literature. Are individual fishing quotas genuinely property rights, in the sense that they should be protected against government taking without compensation? Or are they regulatory licences, subject to revocation and modification at the government's discretion? The answer has significant practical implications: if fishing quotas are property, then reductions in allowable catch required for conservation purposes may constitute a regulatory taking requiring compensation. If they are licences, conservation-motivated reductions in catch may be imposed without compensation.

The leading cases from the courts of New Zealand, Canada, and the United States on the property status of fishing quotas have reached somewhat different conclusions, reflecting the different constitutional and legal frameworks of these jurisdictions. In New Zealand, the courts have declined to characterise ITQs as full property rights, instead treating them as statutory property with protected characteristics but subject to the regulatory power of the government. In Canada, the Supreme Court held in Comeau's Sea Foods v. Canada that fishing licences under

the Fisheries Act were not property rights and could be revoked without compensation. In the United States, the issue has been more complex, with the courts generally treating fishing permits as regulatory licences while recognising that their withdrawal may in some circumstances give rise to compensation claims under the Fifth Amendment.

For Bangladesh, the question of the property status of fishing licences under the Marine Fisheries Act is potentially significant, particularly in the context of the conservation measures required to bring fishing effort within sustainable limits. If the reduction of fishing effort requires the non-renewal or revocation of existing licences, affected licence holders may seek compensation under Bangladesh's constitutional guarantee against deprivation of property in Article 42 of the Constitution. The legal framework needs to address this question explicitly, both to provide legal certainty for the government's conservation management decisions and to ensure that fishing communities whose licences are reduced receive fair compensation or alternative livelihood support.

13.2 Intergenerational Justice and the Rights of Future Fishers

The concept of intergenerational justice, articulated most fully in the philosophical writings of John Rawls, Edith Brown Weiss, and others, holds that present generations have obligations to future generations to leave them an inheritance of natural resources and environmental quality at least equivalent to what they themselves inherited. Applied to fisheries, this principle requires that today's fishers manage their activities in a manner that does not deprive future generations of the opportunity to benefit from healthy and productive fisheries.

Brown Weiss's framework of intergenerational equity, developed in her 1989 book In Fairness to Future Generations, identified three principles: the principle of conservation of options, requiring present generations to maintain the diversity and quality of natural resources; the principle of conservation of quality, requiring present generations to maintain the quality of the environment; and the principle of conservation of access, requiring present generations to provide equitable access to the environmental heritage they leave behind. These principles translate directly into fisheries governance obligations: the obligation to maintain the diversity of fish species and genetic diversity within species; the obligation to maintain the quality of the marine ecosystem that supports fish production; and the obligation to ensure that future generations have access to the fisheries resources they inherit.

The intergenerational justice framework provides a philosophical foundation for the precautionary principle and for the MSY standard that goes beyond the utilitarian argument that sustainability is instrumentally rational because it maximises long-term catch. The intergenerational justice argument holds that sustainability is a matter of obligation, not merely prudence: we owe it to our children and grandchildren to leave them a productive fishery, and this obligation is not contingent on whether sustainable management happens to maximise our own long-term utility.

The legal expression of intergenerational equity in Bangladesh's fisheries law is currently weak. The Marine Fisheries Act of 2020 does not contain any reference to the rights or interests of future generations, and the preamble does not articulate the intergenerational justice rationale for

the Act's conservation provisions. A comprehensive reform should include a preamble that articulates the principles of intergenerational equity and sustainability that underpin the Act's requirements, both to guide the courts and administrators in the interpretation of the Act and to communicate to fishing communities and the public the normative foundations of the regulatory framework.

13.3 The Deep Ecology Perspective on Marine Living Resources

Deep ecology, the philosophical tradition developed by the Norwegian philosopher Arne Naess from the 1970s onward, challenges the anthropocentric framework of both utilitarian environmentalism and the rights-based environmental ethics that grounds most international environmental law. Deep ecology holds that living beings, including non-human animals, plants, and ecosystems, have intrinsic value independent of their usefulness to human beings, and that the richness and diversity of life forms are values in themselves. This biocentric or ecocentric philosophy stands in contrast to the anthropocentric premises of UNCLOS and of Bangladesh's domestic fisheries legislation, which treat marine living resources primarily as objects of human use to be managed in accordance with human interests, however broadly and intergenerationally those interests are conceived.

The practical implications of deep ecology for fisheries law are radical: if fish have intrinsic value independent of their utility to fishers and consumers, then fisheries law cannot be justified solely on the basis of sustainable human use, and the question of how much fishing is ethically permissible becomes one that cannot be resolved by the MSY framework alone. However, most legal scholars and policymakers have not drawn such radical conclusions from ecological philosophy; instead, they have used the language of intrinsic value selectively to justify stronger conservation measures within an essentially anthropocentric framework.

The emerging recognition of the rights of nature in some legal systems provides a more legally grounded entry point for ecological values into the governance of living marine resources. Ecuador's constitutional recognition of the rights of Pachamama (nature), and the New Zealand Supreme Court's recognition of the Whanganui River as a legal person, represent precedents in which ecosystems or natural features have been granted legal standing. The application of this approach to the marine environment, recognising the Bay of Bengal ecosystem as having legal standing and rights of its own, would be a revolutionary legal development, but it is not without intellectual precedent, and it is consistent with the direction in which international environmental law has been moving in its recognition of the intrinsic value of biodiversity through the Convention on Biological Diversity framework.

13.4 Postcolonial Theory and the Law of Fisheries Governance in Bangladesh

The Third World Approaches to International Law (TWAIL) tradition, discussed in Part One of this commentary in the context of UNCLOS generally, applies with particular force to fisheries governance in Bangladesh and similar developing coastal states. The international law of fisheries, as it has developed from the nineteenth century to the present, reflects the interests and values of the colonial and post-colonial great powers in a manner that has systematically disadvantaged developing coastal states.

The colonial era established patterns of access to the fish stocks of the Bay of Bengal that largely excluded local communities from formal legal recognition of their resource rights while acknowledging the rights of colonial traders and distant-water fishing fleets. The post-colonial international law of fisheries, embodied in UNCLOS and the subsequent fisheries agreements, has provided developing coastal states with formal sovereignty over their EEZ fish stocks, but it has done so within a framework of norms and institutions that requires significant technical and financial capacity to utilise effectively. The capacity of states like Norway, Australia, and New Zealand to extract value from their EEZ fish stocks and to manage them sustainably is the product not merely of legal entitlement but of decades of investment in marine science, governance capacity, and institutional infrastructure. Bangladesh inherited its EEZ entitlement without that legacy of capacity building, and the gap between legal entitlement and practical governance capacity is a fundamental dimension of its marine fisheries challenge.

The TWAIL critique also challenges the assumption that the solutions to Bangladesh's fisheries governance problems are to be found in the transfer of governance models from developed countries. The rights-based fisheries management systems of New Zealand and Iceland, the quota management systems of the EU, and the scientific stock assessment approaches of ICES are products of specific ecological, economic, social, and institutional contexts that may not translate well to the very different context of Bangladesh's small-scale, artisanal-dominated, ecologically complex, and institutionally thin fisheries. The search for governance solutions that are rooted in Bangladesh's own ecological knowledge, social institutions, and governance traditions, supplemented by appropriate international frameworks, is a more promising approach than the wholesale importation of models developed for very different conditions.

CHAPTER 14: THE SUNDARBANS AS A CASE STUDY IN INTEGRATED COASTAL AND MARINE LEGAL GOVERNANCE

14.1 The Legal Architecture of Sundarbans Governance

The Sundarbans, the world's largest mangrove forest spanning approximately 10,000 square kilometres across Bangladesh and the Indian state of West Bengal, presents the most complex and fascinating case study in the intersection of marine law, environmental law, constitutional law, and international treaty obligations in the Bangladesh legal system. It is simultaneously a UNESCO World Heritage Site, a Ramsar Wetland of International Importance, a national forest reserve governed by the Forest Department, a critical habitat for the Bengal tiger, the Irrawaddy dolphin, and dozens of other threatened species, a vital nursery for the commercial fish and shrimp species of the Bay of Bengal, a source of livelihood for millions of people in adjacent communities, a natural buffer against cyclones and storm surges, and an international maritime boundary zone between Bangladesh and India.

The governance of the Sundarbans involves at least six different national legislation frameworks in Bangladesh: the Forest Act of 1927, the Wildlife Conservation and Security Act of 2012, the Environment Conservation Act of 1995, the Marine Fisheries Act of 2020, the Territorial Waters and Maritime Zones Act as amended, and the Inland Shipping Ordinance. Each of these

legislative frameworks creates a different set of regulatory authorities, rules, and enforcement mechanisms applicable to different aspects of human activity in the Sundarbans, and their coordination and integration present formidable challenges.

The constitutional protection of the Sundarbans was reinforced by the Supreme Court of Bangladesh in the Sundarbans Public Interest Litigation of 2013 and 2016, which addressed challenges to the government's authorisation of the Rampal coal-fired power plant project near the Sundarbans. The Supreme Court's judgments in this litigation, which required environmental impact assessment, the application of the precautionary principle, and the consideration of alternatives to the power plant, established important precedents for the constitutional protection of critical ecosystems from development projects, drawing on both domestic constitutional law and international environmental law principles.

The international legal dimension of Sundarbans governance involves bilateral obligations between Bangladesh and India for the joint management of the transboundary mangrove ecosystem. The bilateral MOU on environmental cooperation between Bangladesh and India contains provisions on the Sundarbans, but a comprehensive bilateral agreement on the joint conservation and management of the Sundarbans as a transboundary ecosystem remains to be concluded. Such an agreement would need to address the harmonisation of forest management rules, wildlife protection measures, fisheries regulations in the adjacent estuaries and coastal waters, tourism management, climate change adaptation, and the rights of communities dependent on the Sundarbans for their livelihoods.

14.2 St. Martin's Island: Coral Governance in a Fragile Maritime Environment

St. Martin's Island, Bangladesh's only coral island, located at the southern tip of the Cox's Bazar-Teknaf peninsula in the northeastern Bay of Bengal approximately 9 kilometres south of the mainland, presents a unique and urgent governance challenge. The island's coral communities are among the northernmost in the Bay of Bengal and represent a significant marine biodiversity asset whose legal protection is inadequate to the ecological threats they face. The island is surrounded by a legally designated Marine Protected Area, the St. Martin's Island MPA, but the management effectiveness of this MPA is limited by insufficient resources, weak enforcement, and the absence of an integrated governance framework.

The principal threats to St. Martin's Island's coral communities are ocean warming and acidification from climate change, sedimentation and pollution from the mainland, unsustainable coral mining for construction materials, anchor damage from tourist boats, and overfishing of herbivorous fish species that control algal growth on the coral. Each of these threats is addressed, to a greater or lesser degree, by a different legal framework: climate change by UNCLOS and the Paris Agreement, sedimentation and pollution by the Environment Conservation Act and related legislation, coral mining by the Wildlife Conservation and Security Act, anchor damage and tourism management by the MPA regulations, and overfishing by the Marine Fisheries Act.

The legal and institutional fragmentation of St. Martin's Island governance is a case study in the governance failures of Bangladesh's maritime legal system more broadly. The development of an integrated St. Martin's Island Management Plan, with a clear legal basis, defined institutional

responsibilities, adequate funding, and participatory governance mechanisms, would be both a practical conservation priority and a demonstration of Bangladesh's commitment to the principles of integrated coastal zone management that the international community has been advocating since the Rio Earth Summit of 1992.

CHAPTER 15: A COMPREHENSIVE REFORM AGENDA FOR BANGLADESH'S FISHERIES LAW

15.1 The Principles of Reform: A Normative Framework

The comprehensive reform of Bangladesh's fisheries law framework advocated throughout this Part must be grounded in a coherent normative framework that specifies the values and principles the reformed law should embody. Building on the theoretical and philosophical analysis of the preceding chapters, and drawing on the international legal framework as elaborated by UNCLOS, the Fish Stocks Agreement, the FAO Code of Conduct, the Small-Scale Fisheries Guidelines, and the ITLOS and ICJ Advisory Opinions, this commentary proposes the following normative framework for the reform of Bangladesh's fisheries law.

The first principle is ecological sustainability, meaning that the reformed law must ensure that the exploitation of Bangladesh's marine fisheries resources does not exceed the ecological limits of those resources, does not endanger the diversity and productivity of the Bay of Bengal marine ecosystem, and does not compromise the ability of future generations to benefit from the same fisheries that today's communities depend upon. This principle requires the adoption of precautionary reference points, ecosystem-based management measures, and climate-adaptive management frameworks that go beyond the minimum requirements of the MSY standard.

The second principle is social justice, meaning that the reformed law must ensure that the benefits from Bangladesh's marine fisheries are distributed equitably among the citizens of Bangladesh, with specific attention to the rights and needs of the most vulnerable members of fishing communities, including small-scale and artisanal fishers, women, and indigenous fishing communities. This principle requires the protection of customary tenure rights, the provision of social protection for displaced or affected fishing households, the elimination of discriminatory practices in the allocation of fishing rights, and the mainstream of gender equality in fisheries governance.

The third principle is democratic legitimacy, meaning that the reformed law must be developed and implemented through processes that are transparent, participatory, and accountable to the fishing communities and the broader public whose interests it affects. This principle requires the design of meaningful consultation and co-management mechanisms, the publication of fisheries management plans and their scientific basis, and the provision of effective dispute resolution and judicial review mechanisms.

The fourth principle is international legal compliance, meaning that the reformed law must bring Bangladesh's domestic fisheries governance fully into conformity with its international legal

obligations under UNCLOS, the Fish Stocks Agreement, the FAO Code of Conduct, the IOTC conservation and management measures, the WTO Agreement on Fisheries Subsidies, the ITLOS Advisory Opinion on climate change, and the ICJ Advisory Opinion on obligations of states in respect of climate change. This principle requires specific and detailed provisions on each of these areas of international obligation, not merely general statements of commitment.

The fifth principle is institutional effectiveness, meaning that the reformed law must create the institutional architecture needed to give the legal framework practical force, including adequate enforcement powers and resources, effective monitoring and surveillance systems, competent scientific advisory bodies, and coordinated institutional responsibilities.

15.2 Specific Legislative Recommendations

Based on the analysis of the preceding chapters, this commentary proposes the following specific legislative recommendations for the comprehensive reform of Bangladesh's fisheries legal framework.

First, the Marine Fisheries Act of 2020 should be amended to require the preparation, within a specified timeframe, of scientifically grounded fisheries management plans for all major commercial species in Bangladesh's Marine Fisheries Waters. These plans should specify allowable catch levels based on the best available scientific information, precautionary reference points, monitoring and reporting requirements, and adaptive management triggers. They should incorporate climate vulnerability assessments and climate adaptation strategies, and they should be developed through participatory processes involving fishing communities, scientists, and civil society.

Second, the Act should be amended to incorporate by reference the conservation and management measures adopted by the IOTC and other relevant RFMOs to which Bangladesh is a party, making these measures directly enforceable as part of domestic fisheries law without requiring separate implementing regulations. Bangladesh should also take steps to accede to the Fish Stocks Agreement and the Port State Measures Agreement, and the legal framework should be updated to reflect the obligations of these instruments.

Third, the Act should be amended to include specific provisions protecting the customary tenure rights and access rights of small-scale and artisanal fishing communities, based on the principles of the FAO Small-Scale Fisheries Guidelines. These provisions should prohibit the displacement of small-scale fishers from traditional fishing grounds without Free, Prior and Informed Consent and without the provision of fair compensation or equivalent alternative fishing rights. They should require gender-balanced representation in all fisheries governance bodies and mandate the documentation and integration of traditional ecological knowledge into fisheries management decisions.

Fourth, the Act should be amended to include a comprehensive framework for climate-adaptive fisheries management, requiring the incorporation of climate projections into stock assessments and management plans, the designation of climate refugia as protected areas, the review of allowable catches in response to climate-driven changes in stock abundance, and the integration

of fisheries governance with national climate adaptation planning. This framework should specifically address Bangladesh's obligations arising from the 2024 ITLOS and 2025 ICJ Advisory Opinions.

Fifth, a Marine Spatial Planning Act should be enacted, establishing the legal framework for integrated marine spatial planning in Bangladesh's maritime zones, designating a competent planning authority, specifying the process for the preparation and adoption of marine spatial plans, and defining the legal effect of such plans on sectoral licensing decisions. This Act should include provisions on the participation of fishing communities in marine spatial planning processes and on the protection of fisheries interests in the spatial allocation of sea uses.

Sixth, primary legislation should be enacted establishing an Integrated Maritime Resource Authority or equivalent coordinating body, with responsibility for the strategic governance of all aspects of Bangladesh's maritime zone resources. This legislation should specify the Authority's mandate, composition, powers, accountability mechanisms, and relationship to existing line ministries and agencies.

Seventh, Bangladesh should initiate negotiations with India for a bilateral hilsa conservation agreement, with a view to harmonising conservation measures for this shared, iconic species across the boundary between their respective jurisdictions. The BIMSTEC framework should be used to advance the broader agenda of regional fisheries cooperation in the Bay of Bengal, with Bangladesh taking a leadership role in the development of a regional fisheries conservation and management agreement.

15.3 The Jurisprudential Foundations of Reform: Towards a Theory of Marine Living Resources Law in Bangladesh

The comprehensive reform of Bangladesh's fisheries law framework is not merely a technical legislative exercise; it is a jurisprudential project that involves choices about fundamental questions of legal philosophy. These choices must be made consciously and coherently, not left implicit and inconsistent.

The choice between a utilitarian justification for fisheries conservation, which holds that sustainable management is required because it maximises long-term human welfare, and a rights-based or intrinsic-value justification, which holds that conservation is required because future generations and non-human species have rights or interests deserving legal protection, is a choice with significant practical implications. The utilitarian justification is politically more tractable and has broader acceptance in the legal mainstream, but it is vulnerable to the argument that, in specific circumstances, short-term human welfare might be better served by overexploiting the fishery. The rights-based justification is more robust against this argument but requires a clearer articulation of the rights at stake and a mechanism for weighing them against competing rights and interests.

The choice between a positivist approach to fisheries law, which grounds legal obligations in the enacted rules of the state and its international treaty commitments, and a natural law approach, which holds that some obligations in relation to the management of living resources derive from

the nature of those resources and from the needs of present and future generations independent of enacted law, is another fundamental jurisprudential choice. The positivist approach is consistent with the dominant framework of both Bangladesh's domestic law and international law, but it is susceptible to the criticism that it makes the adequacy of fisheries governance entirely dependent on the political will to enact and enforce appropriate legislation, which has historically been insufficient. A natural law supplement, grounding some minimum obligations of fisheries conservation in principles that are not merely contingent on legislative action, would provide a more robust foundation for judicial oversight and public advocacy.

The theory of legal obligation applicable to Bangladesh's international fisheries governance commitments must also be addressed. If Bangladesh's obligations under UNCLOS, the IOTC, and other instruments are conceived as mere treaty commitments, enforceable only through the international dispute settlement mechanisms of those instruments, they will be treated as optional by domestic administrators and politicians who do not fear such enforcement. If they are conceived as obligations that are directly applicable in domestic law and enforceable by Bangladesh's own courts, they will be more effective. The intermediate framework of presumptive consistency, under which domestic statutes are presumed to be intended to be consistent with international obligations and are interpreted accordingly, provides a pragmatic path between these positions that is consistent with Bangladesh's dualist legal tradition.

The contribution of this Part to the broader jurisprudential project of Bangladesh's maritime law is to argue that the reform of fisheries governance requires not merely technical legal drafting but a foundational commitment to the principles of ecological sustainability, social justice, democratic legitimacy, and international legal compliance that together constitute the normative architecture of responsible ocean governance. These principles are not merely aspirational; they are legally grounded in UNCLOS, in the international fisheries instruments to which Bangladesh has committed, in the constitutional rights of Bangladesh's citizens, and in the emerging body of international environmental and human rights law that the ITLOS and ICJ Advisory Opinions have brought to bear on the governance of the marine environment.

CHAPTER 16: COMPARATIVE JURISPRUDENCE AND THE LESSONS OF OTHER DEVELOPING FISHERIES STATES

16.1 The Vietnamese Experience: Rapid Governance Modernisation

Vietnam's marine fisheries governance provides a particularly instructive comparative case for Bangladesh, because Vietnam has undergone a rapid transformation of its fisheries legal framework in recent years in response to the EU's identification of Vietnam as a country failing to comply with IUU fishing standards. In 2017, the EU gave Vietnam a Yellow Card warning under the EU IUU Regulation, citing failures in catch certification, vessel monitoring, flag state responsibilities, and IUU enforcement. The Yellow Card threatened to exclude Vietnamese seafood from the EU market, Vietnam's largest export destination for fisheries products.

The Vietnamese government's response was extensive and rapid. It enacted the Law on Fisheries in 2017, a comprehensive piece of legislation that replaced its colonial-era fisheries law and incorporated the full framework of international fisheries law obligations, including IUU control measures, vessel registration and licensing requirements, flag state responsibilities, port state measures, and sustainable fisheries management principles. It invested heavily in a national vessel monitoring system covering the entire licensed fishing fleet. It established a national IUU coordination committee and deployed rapid response teams to fishing ports to improve catch certification. And it undertook a massive public awareness campaign among fishing communities about the legal and commercial consequences of IUU fishing.

The result of this rapid governance modernisation was the removal of the EU Yellow Card in October 2023, allowing the resumption of unrestricted Vietnamese seafood exports to the EU. Vietnam's experience demonstrates that rapid and comprehensive fisheries governance reform is achievable, even in a developing country with a large artisanal fishing sector and limited institutional capacity, when there is sufficient political will and when the economic incentives for reform are strong. The EU's IUU Regulation, in this case, functioned as an effective external governance driver, using market access as a lever to improve domestic fisheries governance standards.

Bangladesh has so far avoided an EU Yellow Card, but the sustainability and traceability requirements in international fish markets are tightening, and the risk of market access disruption is real. The proactive adoption of comprehensive fisheries governance reform, before market access pressures make it compulsory, would be both less costly and more effective than the reactive reform Vietnam was forced to undertake.

16.2 The Philippine Experience: Fisheries Code Reform and Community Rights

The Philippines, an archipelagic state with a large and diverse marine fisheries sector, provides a model of fisheries law reform that prioritises the rights of small-scale fishers and the integration of community-based management with state governance. The Philippine Fisheries Code of 1998 (Republic Act 8550), as amended by Republic Act 10654 in 2015, establishes a comprehensive framework for the regulation of Philippine fisheries that is notable for its explicit recognition of the rights of small-scale fishers in municipal waters, its provisions on co-management, and its integration of fisheries governance with coastal zone management.

The Philippine Fisheries Code's provisions on small-scale fishers are particularly instructive for Bangladesh. The Code reserves the fifteen-kilometre coastal municipal waters exclusively for small-scale fishers and prohibits the entry of commercial fishing vessels in these waters. It provides for the participation of fishing communities in the management of municipal fisheries through the establishment of Fisheries and Aquatic Resources Management Councils (FARMCs) at the municipal level, which are given specific advisory and co-management responsibilities. It provides social protection for fisherfolk through preferential access to credit, insurance, and social services.

The Constitutional basis for these provisions in the Philippines, which rests on the constitutional protection of small-scale fishers as marginalised communities entitled to special state protection,

provides a model for the constitutional argument that can be made in Bangladesh for similar provisions. Bangladesh's Constitution, particularly Articles 13, 14, and 15 on property rights, the liberation of rural communities, and the obligation to provide basic necessities, provides a potential constitutional foundation for legislative provisions protecting the rights of small-scale fishing communities, though this constitutional argument has not been fully developed in Bangladeshi legal scholarship.

16.3 The Norwegian Model: Science-Based Fisheries Governance in a Developed Country Context

Norway's marine fisheries governance, widely regarded as among the most effective and scientifically rigorous in the world, provides a model of what well-resourced, science-based fisheries management can achieve, even if it is not directly replicable in Bangladesh's very different economic and institutional context. The key elements of Norway's fisheries governance success include: the institutional integration of fisheries management with marine science through the Institute of Marine Research, which conducts systematic annual stock surveys for all major commercial species; the use of rigorous scientific stock assessments as the basis for annual quota-setting decisions; a rights-based quota management system with individual vessel quotas for all major species; strong compliance monitoring through mandatory landing data, vessel monitoring, and at-sea inspection by the Directorate of Fisheries; and transparent governance processes with consultation among fishing industry organisations, scientific bodies, and environmental NGOs.

The lessons for Bangladesh from the Norwegian model are not that Bangladesh should attempt to replicate Norway's institutional architecture, which was built over many decades with substantial public investment in a context of relatively small-scale coastal fisheries operating in a high-income economy. Rather, the lessons are about principles and processes: the fundamental importance of independent, high-quality scientific advice as the basis for management decisions; the value of transparent, consultative governance processes; and the necessity of investing adequately in monitoring and enforcement. These principles are applicable to Bangladesh's fisheries governance reform regardless of the specific institutional form they take.

CHAPTER 17: FISHERIES LAW, DIGITAL TECHNOLOGY, AND THE GOVERNANCE OF THE FUTURE

17.1 Vessel Monitoring Systems, Automatic Identification Systems, and the Legal Dimensions of Digital Fisheries Governance

The governance of fisheries in the twenty-first century is being transformed by digital technologies that enable real-time monitoring of fishing vessel activity at sea, providing a previously unavailable level of transparency in fisheries operations. Vessel Monitoring Systems (VMS), which use satellite communication to transmit vessel position data to a monitoring centre, have been required for larger fishing vessels in many jurisdictions since the 1990s. Automatic Identification Systems (AIS), originally developed for collision avoidance in

commercial shipping, transmit vessel identification and position data that can be received by shore-based and satellite receivers. Electronic logbook systems require fishers to record catch data electronically, reducing opportunities for misreporting and enabling real-time catch monitoring.

Bangladesh's Marine Fisheries Rules of 2023 require VMS installation on larger fishing vessels, and the Department of Fisheries has established a Fisheries Monitoring Centre to receive and process VMS data. However, the penetration of VMS coverage is incomplete, the technical standards for VMS transponders are not fully harmonised with international standards, and the capacity of the Monitoring Centre to analyse and act on VMS data in real time is limited.

The legal dimensions of digital fisheries governance raise several important questions. The privacy rights of fishers in relation to the constant monitoring of their vessel movements must be considered; VMS data, which provide a detailed record of where each vessel has been, when, and for how long, constitute an extensive surveillance system whose use must be governed by appropriate privacy protection standards. The admissibility of electronic data, including VMS tracks and electronic logbook records, as evidence in fisheries enforcement proceedings must be established in the domestic legal framework. And the security of the fisheries monitoring data infrastructure, which could be vulnerable to cyber-attacks or manipulation, must be addressed as a matter of maritime security law.

The development of satellite-based wide-area monitoring of fishing vessel activity, now offered by commercial providers using fusion of AIS and radar data, provides opportunities for comprehensive monitoring of fishing activity in Bangladesh's EEZ at much lower cost than traditional patrol-based enforcement. Several developing country fisheries governance programmes, including Pacific Island states' regional surveillance cooperation under the Forum Fisheries Agency, have demonstrated that satellite-based monitoring can substantially improve IUU detection capacity at modest cost. Bangladesh should consider integrating commercially available satellite monitoring data into its fisheries surveillance framework, with appropriate legal provisions for the use of this data in enforcement proceedings.

17.2 Blockchain and Traceability in the Fish Supply Chain

The use of blockchain technology and other digital tools to create immutable records of fish supply chain transactions, from catch through processing to the final consumer, is an emerging area of fisheries governance technology with potentially significant implications for IUU control and market access. Several major seafood companies and certification bodies are developing blockchain-based traceability systems that can track individual fish products from the vessel that caught them to the restaurant or retailer that sells them, providing a verifiable chain of custody that makes it very difficult to mix legally caught fish with IUU product.

For Bangladesh, blockchain-based traceability has particular relevance for its export fisheries, where the EU IUU Regulation and similar requirements in other major markets are creating strong demand for verifiable product provenance. The legal framework for such traceability systems would need to address the authority of government to require their adoption, the standards for data quality and verification, the legal status of blockchain records as official

documentation for catch certification purposes, and the privacy and commercial confidentiality of supply chain data.

The Bangladesh Fisheries Research Institute and the Ministry of Fisheries and Livestock have been exploring the development of a digital fisheries governance platform that would integrate VMS data, electronic logbooks, landing data, and catch certification into a unified system. The legal framework for such a platform, including data governance, access rights, and the legal status of electronically certified catches, should be addressed in the comprehensive fisheries law reform.

CHAPTER 18: LEGAL EDUCATION, CAPACITY BUILDING, AND THE CULTURE OF MARITIME LAW IN BANGLADESH

18.1 The Legal Profession and the Law of the Sea in Bangladesh

The effective implementation and reform of Bangladesh's fisheries law framework depends not only on the formal legal architecture but on the broader ecosystem of legal expertise, education, and culture within which that architecture operates. The law of the sea and fisheries governance are highly technical fields requiring specialised knowledge of international maritime law, ocean sciences, fisheries management, and institutional governance. The supply of legal professionals with this specialised knowledge in Bangladesh is limited, and this is a significant constraint on the quality of domestic legal reform and on Bangladesh's capacity to engage effectively in international fisheries governance forums.

Bangladesh has several universities with law faculties of significant quality, and the legal profession has made important contributions to the development of constitutional and human rights law in Bangladesh. But the law of the sea and fisheries law have not historically been areas of focused academic attention in Bangladeshi law schools. The establishment of the Bangladesh Centre for Ocean Law and Policy (BCOLP), which has been actively promoting research and education on ocean law and policy, represents an important development in building the academic foundation for maritime law expertise in Bangladesh. The Centre's research on Bay of Bengal ocean governance, coastal marine management, and the legal dimensions of maritime resources provides a valuable institutional resource for the reform agenda.

The development of specialised maritime law curricula in Bangladeshi universities, the creation of research fellowships and postdoctoral positions in ocean law and policy, and the strengthening of partnerships between Bangladeshi academic institutions and international maritime law research centres are all important elements of the long-term capacity building needed to support comprehensive fisheries law reform. Bangladesh's participation in international maritime law training programmes, including those offered by ITLOS, the IMO, and the FAO, should be expanded and systematised.

18.2 The Role of Civil Society in Fisheries Governance Reform

Civil society organisations, including environmental NGOs, fishing community organisations, academic research centres, legal aid organisations, and consumer groups, play important roles in the governance of fisheries in many jurisdictions, both as advocates for policy reform and as participants in governance processes. In Bangladesh, civil society engagement in fisheries governance has historically been limited, reflecting both the structural challenges facing civil society organisations in Bangladesh's political environment and the limited awareness of fisheries governance issues outside of fishing communities and the fisheries bureaucracy.

The strengthening of civil society engagement in fisheries governance is both a governance objective in its own right and a practical necessity for comprehensive reform. Fishing community organisations, whose members directly experience the impacts of fisheries governance decisions on their livelihoods, are the most important civil society actors in this field, and their capacity to participate effectively in governance processes depends on their legal recognition, their organisational capacity, and their access to legal advice and representation. Legal aid organisations with expertise in fisheries law can play an important role in enabling fishing communities to assert their rights in administrative and judicial proceedings.

Environmental NGOs, including BELA, BAPA, and international organisations such as WWF, IUCN, and WCS that have programmes in Bangladesh, contribute scientific expertise, advocacy capacity, and connections to international networks that can supplement the government's fisheries management capacity. The legal framework for civil society participation in fisheries governance, including the right to be heard in the preparation of fisheries management plans, the right to access information about fisheries stock assessments and management decisions, and the right to bring judicial review proceedings to challenge unlawful governance decisions, should be specifically addressed in the fisheries law reform.

CONCLUDING COMMENTARY

The fisheries of the Bay of Bengal represent one of the most productive, most contested, and most legally complex marine environments in the world. For Bangladesh, they are not merely an economic asset but a civilisational heritage, a foundation of food security, and a dimension of national identity. The legal framework that governs them must be adequate to the ecological, social, economic, and political challenges they face, and it must be grounded in a coherent jurisprudential philosophy that embeds the values of sustainability, justice, and democratic governance in the architecture of the law.

The commentary in this Part has argued that Bangladesh's current fisheries legal framework, while significantly improved by the Marine Fisheries Act of 2020 and the Marine Fisheries Rules of 2023, remains inadequate to these challenges in several important respects: its scientific basis is incomplete, its enforcement capacity is limited, its treatment of small-scale fisheries and community rights is insufficient, its engagement with climate change is non-existent, its institutional architecture is fragmented, and its integration with international fisheries law obligations is partial.

The comprehensive reform agenda proposed in Chapter 15 addresses these inadequacies with specific legislative recommendations grounded in international law, comparative jurisprudence, and the normative principles of ecological sustainability, social justice, democratic legitimacy, and international legal compliance. The implementation of this reform agenda requires political will, institutional capacity, and financial investment, none of which can be taken for granted. But the consequences of failing to reform are clear: the progressive depletion of one of Bangladesh's most valuable natural resources, the impoverishment of millions of coastal fishing households, the erosion of food security for tens of millions of consumers who depend on affordable fish protein, and the failure to build the legal architecture that Bangladesh's blue economy ambitions require.

The 2024 ITLOS Advisory Opinion, the 2025 ICJ Advisory Opinion on climate change, the 2026 BOBP-IGO roadmap for Bay of Bengal fisheries governance reform, and the 2025 RV Dr. Fridtjof Nansen ecosystem survey have collectively provided Bangladesh with a clearer picture of both the legal obligations it must meet and the scientific foundation on which governance decisions must be based. They have also provided a powerful normative framework for advocacy and reform. The responsibility now lies with the legal community, the government, the fishing industry, and the fishing communities of Bangladesh to translate this framework into the comprehensive legal reform that Bangladesh's maritime future demands.

The sea does not wait. The fish do not wait. And the millions of people whose livelihoods and food security depend on the health and productivity of the Bay of Bengal cannot afford to wait for the leisurely pace of incremental legislative reform. The moment for comprehensive action is now, and the comprehensive legal framework described in this Part provides the architectural design for that action.

END OF PART FIVE

Next: Part Six: Hydrocarbon Resources, Offshore Energy, and the Legal Framework of Bangladesh's Blue Economy: A Comprehensive Commentary on Petroleum Law, Environmental Governance, and the Architecture of Sustainable Offshore Development

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This Part is the fifth of twenty parts in the series Commentaries And Necessary Reforms in The Law of The Sea: Bangladesh Perspective. The commentary is an academic and policy work intended to inform legislative and institutional reform. It does not constitute legal advice, and readers seeking advice on specific legal matters should consult qualified legal practitioners.

PART SIX

HYDROCARBON RESOURCES, OFFSHORE ENERGY, AND THE LEGAL FRAMEWORK OF BANGLADESH'S BLUE ECONOMY: A COMPREHENSIVE COMMENTARY ON PETROLEUM LAW, ENVIRONMENTAL GOVERNANCE, AND THE ARCHITECTURE OF SUSTAINABLE OFFSHORE DEVELOPMENT

A Commentary on the Jurisprudence of Energy Sovereignty, the Political Economy of the Production Sharing Contract, the Environmental Obligations Arising from International Adjudication, and the Imperative of Comprehensive Legal Reform in the Age of the Climate Crisis

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PREFACE TO PART SIX

There is a profound irony at the heart of Bangladesh's energy situation. The nation sits atop what geologists increasingly describe as one of the most extensively underexplored frontier regions in the world, a vast deep-water sedimentary system known as the Bengal Fan, the largest such fan on earth, whose geological formation bears structural and stratigraphic similarities to the oil and gas provinces of the Gulf of Mexico and the Niger Delta. Adjacent to Bangladesh's exclusive economic zone, in the Krishna-Godavari Basin to the west and the Rakhine Basin to the east, India and Myanmar have each made significant commercial hydrocarbon discoveries. Gas has been found in the same geological formation on both sides of Bangladesh's maritime boundaries. And yet Bangladesh itself, after decades of periodic licensing rounds, successive production sharing contract frameworks, and the expenditure of considerable diplomatic capital in successfully resolving its maritime boundaries through international arbitration, has managed to discover and produce commercial quantities of offshore hydrocarbons from precisely one field, the now-exhausted Sangu gas field, which ceased production in 2013.

The consequence of this irony is that Bangladesh, a nation of over 170 million people with rapidly growing energy demand, a garment manufacturing sector consuming enormous quantities of electricity, and a development ambition encapsulated in the Vision 2041 framework, has become a net importer of energy at substantial fiscal cost. The decision, made under the Awami League government in the years following 2015, to prioritise liquefied natural gas imports over sustained offshore exploration investment created a dependency that the political transition of August 2024 and the subsequent BNP landslide victory of February 2026 have inherited and must now manage. The dependence on LNG imports proved acutely vulnerable when global energy markets tightened following the Iran-related disruption of 2025, exposing Bangladesh to precisely the energy security risks that domestic hydrocarbon development was always intended to mitigate.

Part Six of this commentary addresses the entire legal and jurisprudential architecture governing Bangladesh's offshore hydrocarbon and energy resources. It proceeds from the foundational question of the nature of sovereignty over energy resources in the exclusive economic zone and the continental shelf, through the detailed analysis of the Production Sharing Contract as Bangladesh's primary legal instrument for attracting offshore investment, to the environmental governance framework that the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory

Opinion have permanently reconfigured. It examines the institutional architecture, including the roles of Petrobangla, BAPEX, and the Ministry of Power, Energy and Mineral Resources, and identifies the significant institutional failures that have contributed to Bangladesh's offshore exploration deficit. It analyses the comparative experience of other developing states that have successfully developed offshore hydrocarbon resources and extracts lessons applicable to Bangladesh's situation. It addresses the emerging energy transition and the questions it raises about whether Bangladesh should be investing heavily in hydrocarbon exploration at all, or whether its legal and institutional energies should be directed toward the offshore renewable energy sector. And it articulates a comprehensive reform agenda for Bangladesh's offshore energy legal framework.

Throughout, the commentary engages with the deepest questions of legal philosophy and political theory that the governance of offshore hydrocarbon resources raises: questions about the nature of sovereignty over sub-seabed resources, the theory of the resource curse and its application to developing states, the distributive justice implications of offshore energy development, and the tension between development aspirations and climate obligations that is the defining normative challenge of our time.

CHAPTER 1: THE JURISPRUDENTIAL FOUNDATIONS OF HYDROCARBON SOVEREIGNTY IN THE EXCLUSIVE ECONOMIC ZONE AND THE CONTINENTAL SHELF

1.1 The Doctrine of Permanent Sovereignty over Natural Resources and its Maritime Dimension

The principle of permanent sovereignty over natural resources is one of the most important and most contested principles in the history of international law. It emerged in the 1950s and 1960s as a central component of the decolonisation project, articulated by newly independent states seeking to assert control over the natural resources of their territories against the claims of colonial-era concessionaires and metropolitan governments. The principle was codified in a series of United Nations General Assembly resolutions, most notably Resolution 1803 (XVII) of 1962 on Permanent Sovereignty over Natural Resources, which declared that the right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned.

The maritime dimension of this principle developed somewhat later, as the expansion of coastal state jurisdiction through the UNCLOS framework extended the concept of resource sovereignty from the land territory of states to the adjacent seas and seabed. The Truman Proclamation of 1945 on the Continental Shelf, discussed in Part One of this commentary, was the founding instrument of coastal state claims to sovereign rights over sub-seabed resources, and the UNCLOS Articles 56, 77, and related provisions codified these claims in a form that now constitutes binding international law for the vast majority of the world's states.

The precise legal character of the sovereign rights over resources in the exclusive economic zone and the continental shelf is a question of considerable jurisprudential interest. Article 56 of UNCLOS provides that in the exclusive economic zone, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil. Article 77 provides that the coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. These provisions speak of sovereign rights rather than sovereignty, a distinction that has been the subject of extensive academic commentary.

The distinction between sovereignty and sovereign rights is not merely terminological; it reflects a substantive legal judgment about the character of coastal state authority in these zones. Sovereignty, in its classical formulation, is plenary and exclusive: the sovereign state has full authority over its territory and is not accountable to any external authority in the exercise of that authority within territorial limits. Sovereign rights, by contrast, are functional and specific: they apply to the particular activities of exploration and exploitation for which they are granted and do not extend to all the incidents of territorial sovereignty. The coastal state's sovereign rights over EEZ and continental shelf resources are exclusive in the sense that no other state may explore or exploit those resources without the coastal state's express authorisation, but they do not transform the EEZ or the continental shelf into territory of the coastal state in the full Westphalian sense.

This distinction has practical implications for Bangladesh. It means that Bangladesh's exclusive authority over offshore hydrocarbon development in its EEZ and continental shelf is legally secure and internationally recognised, and that no other state may explore or extract those resources without Bangladesh's consent. It also means, however, that the exercise of these sovereign rights is not unconstrained: it is subject to the environmental obligations of UNCLOS Part XII, to the duty to cooperate with other states in matters of shared resources, and, as the 2024 ITLOS Advisory Opinion confirms, to the due diligence obligations of preventing, reducing, and controlling marine pollution, including pollution from greenhouse gas emissions.

The theory of the continental shelf sovereign rights as a form of constructive possession, developed by scholars following the 1969 North Sea Continental Shelf cases, provides a useful jurisprudential framework for understanding the nature of Bangladesh's resource entitlements. On this theory, the coastal state's sovereign rights over continental shelf resources exist ipso facto and ab initio, by the sole fact of existence as a coastal state, without any express act of proclamation or occupation. The sovereign rights arise automatically from the geographic fact of adjacency, not from any act of possession or exploitation. This means that Bangladesh's sovereign rights over the resources of its continental shelf, including those in the outer continental shelf beyond 200 nautical miles, exist as a matter of law regardless of whether Bangladesh has yet explored or exploited those resources, and regardless of whether the CLCS has yet made its recommendations on the outer limits of the shelf.

1.2 The Political Theory of Resource Sovereignty: From Vattel to the New International Economic Order

The philosophical foundations of the principle of permanent sovereignty over natural resources are deep and contested. The natural law tradition, from Grotius and Vattel through the twentieth century, provided a framework in which the resources of the earth belong, in the first instance, to no one and are appropriated through the exercise of labour and through the establishment of sovereign authority over territory. Locke's theory of property, developed in the Second Treatise of Government, grounded the appropriation of natural resources in the mixing of labour with the resource, subject to the proviso that there be enough and as good left for others. This Lockean framework is insufficient to justify claims of territorial resource sovereignty in the modern sense, but it provides a philosophical foundation for the intuition that a community's labour in developing its territory gives it a special claim to the resources of that territory.

Vattel's theory of the law of nations, discussed in Part One, provided a stronger foundation for state resource sovereignty by grounding the state's authority over territorial resources in the general interest of the international community in the development of national territories. The well-governed state, on Vattel's account, benefits not only its own people but the entire international community by developing its territory productively, and the principle of sovereignty protects that capacity for development against external interference. This argument has been developed and extended in the context of natural resource sovereignty by scholars working within the emerging framework of the New International Economic Order, which was the political and legal project of developing states in the 1970s for the restructuring of the global economic order along more equitable lines.

The NIEO project, articulated in the Declaration and Programme of Action on the Establishment of a New International Economic Order adopted by the UN General Assembly in 1974, specifically endorsed the principle of permanent sovereignty over natural resources and extended it to encompass the right of developing states to regulate and control the activities of transnational corporations, the right to nationalise foreign investments with appropriate compensation, and the right to benefit from an equitable share of the revenues generated by the exploitation of natural resources within their territories. This programme was controversial from the outset, rejected in significant respects by the major developed states, but it left a permanent mark on international economic law and on the political discourse of developing states' claims to resource sovereignty.

For Bangladesh, the NIEO framework is historically significant as a context in which the 1974 Territorial Waters and Maritime Zones Act was enacted. Bangladesh's assertion of an EEZ claim in 1974, before UNCLOS had formalised this zone as an entitlement of all coastal states, was a political act consistent with the NIEO's emphasis on developing state resource sovereignty and its challenge to the traditional law of the sea's protection of distant-water fishing and naval power interests. Understanding this historical and ideological context enriches the legal analysis of Bangladesh's maritime legislation and helps explain the political commitments that shape the ongoing development of its maritime legal framework.

The neo-liberal critique of permanent sovereignty over natural resources, developed by economists and lawyers in the 1980s and 1990s, challenged the efficiency of national resource sovereignty on the grounds that politically motivated restrictions on resource development, rent-seeking behaviour by state enterprises and their political patrons, and the distorted incentive

structures created by state ownership of resource revenues collectively impeded the efficient exploitation of natural resources and reduced the welfare of the very people in whose name sovereignty was exercised. This critique, associated with the political economy tradition of Buchanan and Tullock and the law and economics tradition of Posner and Easterbrook, provided an intellectual foundation for the liberalisation programmes that the World Bank and the IMF promoted in developing states from the 1980s onward, including liberalisation of the petroleum sector through the introduction of production sharing contracts and other forms of private investment in resource extraction.

The resource curse hypothesis, developed by economists including Jeffrey Sachs and Andrew Warner and later elaborated by Paul Collier and Michael Ross, provides a sobering political economy perspective on the relationship between hydrocarbon wealth and development. The resource curse describes the empirical regularity that countries with large natural resource endowments, particularly oil and gas, frequently perform worse on measures of economic growth, human development, democratic governance, and conflict than comparable countries without such endowments. The proposed mechanisms for the curse include the Dutch disease effect, whereby large resource revenues cause real exchange rate appreciation that undermines the competitiveness of manufacturing; rentier state dynamics, whereby governments that derive revenue primarily from resource rents rather than taxes become less accountable to their citizens; and the increased risk of conflict over resource rents.

The resource curse hypothesis has been contested, both on methodological grounds and on the basis of contrary evidence from resource-rich countries that have managed their endowments successfully. Norway is the canonical example of a resource-rich country that has avoided the resource curse through strong institutional governance, transparent revenue management, and the sovereign wealth fund mechanism. Botswana is an example from the developing world of a country that used its diamond resource wealth as a foundation for development rather than a source of political dysfunction. The lesson of these cases is that the resource curse is not inevitable; it is a political and institutional failure, and it can be avoided through appropriate legal and institutional design.

For Bangladesh, which faces the prospect of significant offshore hydrocarbon development in the coming decades, the resource curse hypothesis is a cautionary warning rather than a prediction. The design of Bangladesh's legal and institutional framework for offshore energy development must specifically address the risks of institutional capture, revenue mismanagement, and the distortion of development priorities that the resource curse literature identifies. This requires not only technical legal design but a broader commitment to democratic governance, institutional transparency, and the rule of law that is the foundation of the successful resource development stories.

1.3 UNCLOS Articles 56, 76, and 77: The Textual Architecture of Offshore Resource Sovereignty

A careful textual analysis of the relevant UNCLOS provisions is essential to understanding the scope and limits of Bangladesh's sovereign rights over offshore hydrocarbon resources. Article 56(1)(a) vests in the coastal state sovereign rights for the purpose of exploring and exploiting,

conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil. The phrase natural resources in this provision encompasses hydrocarbons, as specifically confirmed by the subsequent provisions on the continental shelf. The phrase exploring and exploiting, conserving and managing is comprehensive, covering the full range of activities associated with the development of hydrocarbon resources from initial survey through production.

Article 77(1) provides that the coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. Article 77(2) clarifies that the rights referred to are exclusive in the sense that if the coastal state does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal state. Article 77(4) defines the natural resources of the continental shelf as consisting of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species. Hydrocarbons, being mineral resources of the seabed and subsoil, fall squarely within this definition.

Article 76 of UNCLOS, which defines the continental shelf and establishes the criteria for its delineation, is among the most technically complex provisions in the Convention. It defines the continental shelf as comprising the seabed and subsoil of the submarine areas that extend beyond the territorial sea throughout the natural prolongation of the coastal state's land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance. Article 76 also establishes the procedure for determining the outer limits of the continental shelf beyond 200 nautical miles, requiring the coastal state to submit information to the CLCS, whose recommendations provide the basis for the final determination of the outer limits.

For Bangladesh, Article 76 is of particular significance because the Bengali continental shelf, formed by the immense sediment discharge of the Ganges-Brahmaputra-Meghna river system, extends well beyond 200 nautical miles from the baseline. Bangladesh's submission to the CLCS, made in 2011, claims a continental shelf extending to approximately the 350-nautical-mile limit in the relevant area, which would give Bangladesh sovereign rights over an enormous area of sub-seabed resources beyond the 200-mile EEZ. The CLCS's recommendations on this submission, still pending as of the present date, will determine the legal extent of Bangladesh's outer continental shelf entitlements and therefore the full scope of its sovereign rights over sub-seabed hydrocarbon resources.

The jurisprudential significance of the UNCLOS continental shelf regime for Bangladesh's hydrocarbon governance lies in the clarity it provides about the exclusivity and automaticity of coastal state resource rights. Unlike the EEZ, where the coastal state's rights must be exercised subject to significant obligations regarding the conservation and management of living resources and the rights of other states, the continental shelf sovereign rights over non-living resources are virtually unconstrained in their internal dimension: the coastal state may develop or not develop the shelf as it sees fit, subject only to the environmental protection obligations of UNCLOS Part XII and the general duty of due diligence. This means that Bangladesh's decision about when, how, and with whom to develop its offshore hydrocarbon resources is a decision that belongs to

Bangladesh alone, subject to the increasingly demanding environmental governance framework that international adjudication has been elaborating.

1.4 The Legal Character of the Production Sharing Contract: Public International Law, Contract Law, and Sovereignty

The Production Sharing Contract (PSC) is the dominant legal instrument through which Bangladesh and most other developing state hydrocarbon producers manage their relationship with international oil companies. The PSC regime raises fundamental questions of legal theory about the relationship between public international law, domestic public law, and private contract law, questions that are not merely academic but have direct practical implications for the governance and enforcement of offshore development agreements.

The classical theory of the PSC is that it is a contract between the host state, through its national oil company or petroleum ministry, and the international oil company (IOC), allocating the rights and obligations of exploration and production between the parties. On this contractual theory, the PSC is governed by the domestic law of the host state, subject to any choice of law clauses in the contract, and disputes are resolved according to the dispute settlement provisions of the PSC, typically international arbitration under the rules of the ICC, ICSID, or another institutional arbitration body.

This contractual theory is, however, contested. An alternative theory treats the PSC not merely as a contract but as a quasi-legislative instrument through which the sovereign state exercises its resource sovereignty within a framework of legal obligations that have both contractual and public law dimensions. On this view, the PSC creates not merely contractual rights and obligations but a regulatory framework for the development of national resources, and the state's authority to modify that framework in the public interest, subject to appropriate compensation obligations, is an inherent attribute of sovereignty that cannot be alienated by contract.

The tension between these two theories is reflected in the history of investment treaty arbitration in the oil and gas sector, where host states have frequently found themselves subject to international arbitral claims when they have sought to modify PSC terms, impose new taxes or royalties, or nationalise hydrocarbon assets. The ICSID Convention and the bilateral investment treaty network have created a framework of investor protection that significantly constrains the contractual modification of PSC terms and that can require the payment of substantial compensation when host states act in ways that are found to violate the treaty standards of fair and equitable treatment, full protection and security, and prohibition of expropriation without compensation.

Bangladesh is party to a number of bilateral investment treaties that provide substantive protection to foreign investors, including IOCs, against expropriatory or discriminatory treatment of their investments. The interaction between these BIT protections and Bangladesh's authority to modify the terms of offshore development contracts in pursuit of the public interest raises complex questions of international investment law that must be addressed in the design of Bangladesh's PSC framework and its broader offshore energy legal architecture.

The theory of state contracts developed by the ICSID tribunal in Texaco v. Libya (1977) and subsequent cases, which held that state contracts acquiring an international dimension through contractualisation or by reference to international law can be governed by principles of international law and can be immune from unilateral modification by the host state, represents an extreme version of the contractual theory that most international law scholars and tribunals have since rejected as inconsistent with the fundamental principle of state sovereignty. The current mainstream position in international investment law, reflected in the ICSID case law since the early 2000s, recognises the host state's legitimate regulatory authority to modify the terms of investment contracts in the public interest, provided that such modification is non-discriminatory, for a legitimate public purpose, and accompanied by appropriate compensation.

For Bangladesh, the practical implication of this theoretical debate is that the design of the PSC framework must carefully balance the need to attract IOC investment with credible contractual protections against the need to preserve the government's regulatory authority to impose environmental, safety, and fiscal requirements as those requirements evolve over the lifecycle of an offshore development project. This balance is difficult to achieve, but it is essential: PSC terms that are so protective of the IOC's contractual rights that they prevent the government from imposing necessary environmental or safety regulations would be politically unacceptable and possibly unconstitutional, while PSC terms that are so favourable to the government's regulatory authority that IOCs cannot rely on the fiscal and operational framework would fail to attract the investment that offshore development requires.

CHAPTER 2: THE HISTORY OF OFFSHORE HYDROCARBON DEVELOPMENT IN BANGLADESH: A NARRATIVE OF MISSED OPPORTUNITIES AND STRUCTURAL CONSTRAINTS

2.1 The Geological Promise: The Bengal Fan and its Hydrocarbon Potential

The Bengal Fan is the world's largest deep-water sedimentary fan, an enormous submarine cone of sediment deposited over millions of years by the immense discharge of the Ganges-Brahmaputra-Meghna river system into the Bay of Bengal. The fan extends from the mouth of the rivers southward for thousands of kilometres, covering an area of approximately 3 million square kilometres of the ocean floor. It is composed of thick sequences of turbidite sandstones and muds, deposited in water depths ranging from a few hundred metres on the upper slope to several kilometres in the abyssal plain.

The hydrocarbon potential of the Bengal Fan has been the subject of academic and commercial interest for several decades. The geological argument for significant gas accumulations in the upper Bengal Fan is compelling. The fan contains the same Miocene to Pliocene sedimentary sequences that have proved productive in the adjacent onshore gas fields of Bangladesh and in the offshore fields of India's eastern coast. The deltaic system that deposited the fan has provided abundant organic matter that, over geological time, has generated hydrocarbons. The structural geology of the upper fan shows evidence of fold belts and associated anticlines that could form traps for migrating hydrocarbons.

The TGS multi-client 2D seismic survey, conducted in advance of Bangladesh's 2024 offshore bidding round, described the Bengal Fan as one of the most extensively underexplored frontier regions in the world, with significant evidence of working petroleum systems. As noted by Professor Badrul Imam of Dhaka University, if gas exists in the same geological formation on both sides of Bangladesh's EEZ boundaries, and evidence suggests it does, the geological probability of significant accumulations within Bangladesh's own offshore blocks is high. The Krishna-Godavari Basin directly to the west of Bangladesh's maritime boundary, where India's ONGC achieved first oil from its flagship KG-DWN-98/2 deepwater block in January 2024, represents a directly analogous geological setting to parts of Bangladesh's outer EEZ.

The principal geological risks associated with Bangladesh's offshore petroleum systems are, however, real and must be acknowledged. The primary risk is the nature of the source rocks in the deep Bengal Fan: unlike the well-established source rock sequences of the North Sea or the Gulf of Mexico, the organic content and thermal maturity of the potential source rocks in the deep fan are not fully characterised. The timing of hydrocarbon generation relative to trap formation is uncertain. The structural complexity of the fold belt creates significant uncertainty about the continuity and seal integrity of potential reservoir traps. And the limited existing well control, with only seventeen offshore wildcats drilled to date in a total offshore area of approximately 118,000 square kilometres, means that the geological model is based primarily on seismic interpretation rather than direct subsurface data.

These geological uncertainties are not arguments against exploration; they are arguments for the careful design of a licensing and contractual framework that appropriately allocates the risks of exploration between the host state and the exploring company. The design of the PSC must reflect the real technical risks of offshore exploration, providing sufficiently attractive terms to compensate IOCs for those risks while ensuring that the host state captures an appropriate share of the upside if discoveries are made. Getting this balance right is the central challenge of PSC design, and the history of Bangladesh's offshore licensing rounds suggests that it has not always been achieved.

2.2 A History of Licensing Rounds: From 1974 to the Present

Bangladesh's first offshore licensing round was conducted in 1974, the same year as the Territorial Waters and Maritime Zones Act. The round attracted six companies, including Union Gas Company, which reported evidence of gas in the Kutubdia area of the Cox's Bazar coast. However, the political turmoil following the assassination of Sheikh Mujibur Rahman in August 1975 and the subsequent political transitions disrupted the nascent offshore exploration programme, and all six companies withdrew from their agreements.

The second round, conducted in 1988, attracted no interest, reflecting the poor commercial terms being offered and the international oil industry's assessment of Bangladesh as a politically risky investment environment. The PSC-1994 round produced an agreement with Australia's Santos, which discovered the Sangu gas field in the Chittagong offshore area. This discovery, the only commercially successful offshore find in Bangladesh's history, produced gas between 1998 and 2013, when the field was shut down as commercially exhausted.

The PSC-2008 round attracted two significant participants: the American major ConocoPhillips, which began work in two deep-sea blocks in 2010, conducting 2D seismic surveys, and South Korea's Posco Daewoo, which also signed agreements for two blocks. Both companies subsequently withdrew: ConocoPhillips in 2015, when its demand for higher gas prices under the fixed-price regime then in effect was not met, and Posco Daewoo without completing its work programme. India's ONGC Videsh signed agreements in 2014 for two shallow-sea blocks under the PSC-2012, and Australia's Santos joined with Singapore's Kris Energy for two additional blocks. All of these companies eventually withdrew without making commercial discoveries.

The pattern of these withdrawals reveals a structural problem in Bangladesh's offshore licensing framework rather than a simple absence of geological prospectivity. The fixed gas price mechanism, under which IOCs were required to sell any gas discovered to Petrobangla at a government-determined price regardless of market conditions, was a fundamental disincentive to deepwater exploration, where the capital costs are enormous and the financial returns depend critically on the ability to capture the market value of discovered resources. ConocoPhillips' withdrawal specifically citing price disputes illustrates how the fiscal framework undermined the commercial viability of the exploration programme.

A further structural constraint was the absence of a domestic market mechanism for offshore gas: Bangladesh's gas distribution system was designed for onshore fields, and the development of offshore gas infrastructure, including pipelines or LNG processing facilities, would require massive additional capital investment on top of the exploration and development costs. IOCs evaluating Bangladesh's offshore blocks compared them not only against other frontier prospects but against the full cost of bringing offshore gas to market, and the absence of existing infrastructure significantly reduced the relative attractiveness of Bangladesh's blocks.

The political decision in 2018 to prioritise LNG imports over offshore exploration investment, described by commentators as a policy of choosing speed and price certainty over the long-term development of domestic supply, compounded the structural problems. The Awami League government's energy policy effectively deprioritised offshore exploration for over a decade, creating a situation in which by the time the 2024 bidding round was launched, the competitive landscape for offshore investment had shifted, key potential investors had committed their capital to other regions, and the institutional capacity for contract negotiation and technical oversight had atrophied.

The 2024 bidding round, prepared with the support of TGS's new multi-client seismic data and a revised PSC-2023 framework that replaced the fixed price mechanism with an oil-indexed pricing structure and introduced a revenue-sharing model replacing the previous profit-sharing arrangement, represented an attempt to address the structural commercial disincentives of the previous framework. The government's deadline for bids was set for September 2024. However, as reported by Prothom Alo in August 2025, no foreign company submitted a tender by that deadline, and the round ultimately failed to attract commercial interest. Seven companies initially purchased bid documents, but the political uncertainty following the ouster of Sheikh Hasina in August 2024 and the subsequent transition period appears to have deterred final submission.

The return of the elected BNP government in February 2026 has reopened the question of offshore exploration policy. The new government inherited both the energy dependency created by the previous administration's LNG strategy and the geological opportunity represented by Bangladesh's underexplored EEZ. The window for offshore exploration to make a meaningful contribution to Bangladesh's energy security is narrow: as noted by analysts at The Diplomat, deep-water first gas is at minimum a decade away from an exploration start. The imperative to attract IOC investment is therefore urgent.

2.3 BAPEX, Petrobangla, and the Institutional Deficit in Offshore Capacity

One of the most significant structural constraints on Bangladesh's offshore hydrocarbon development is the limited technical capacity of its national oil companies. Petrobangla, the Bangladesh Oil, Gas and Mineral Corporation, is the state-owned apex body for the petroleum sector, responsible for policy development, licensing, and the oversight of exploration and production activities. Its subsidiary, the Bangladesh Petroleum Exploration Company (BAPEX), is responsible for exploration activities and has developed considerable competence in onshore gas exploration through a long programme of development drilling.

However, as noted in the available literature, BAPEX has essentially no offshore drilling experience. It has not conducted any offshore exploration wells, does not have the deep-water drilling capability that the exploration of Bangladesh's deeper offshore blocks requires, and has not developed the technical and institutional competence needed to manage complex offshore development projects or to serve as a knowledgeable and effective counterparty to IOCs in PSC negotiations. This absence of domestic technical capacity creates two related problems: first, it makes Bangladesh entirely dependent on IOC technical expertise for the exploration and development of its offshore resources, reducing the government's bargaining power in contractual negotiations and its ability to monitor and oversee IOC activities; and second, it means that the knowledge generated in offshore exploration is largely captured by IOCs and not systematically transferred to the national institution.

The contrast with India's ONGC, which has developed deep-water drilling capability through decades of domestic offshore production and has now achieved commercial production from deepwater blocks in water depths of 300 to 3,200 metres, is instructive. India's investment in the technical capacity of its national oil company has paid dividends not only in the form of domestic resource development but in the strategic influence that technical competence gives ONGC in its dealings with international partners and in regional diplomatic contexts. Bangladesh's failure to similarly develop BAPEX's offshore technical capacity is not merely a practical limitation; it is a reflection of a broader institutional investment deficit in the energy sector.

The legal framework for Petrobangla and BAPEX is provided primarily by the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, which establishes the corporations' mandate, governance structure, and relationship to the government. This legislation, now four decades old, does not reflect the modern principles of state-owned enterprise governance that have developed in international practice since the 1980s, including the principles of board independence, transparency in financial reporting, arm's-length relationship with government, and commercial

orientation. The reform of the legal framework governing Petrobangla and BAPEX, to align it with modern SOE governance standards and to create the institutional incentives for capacity building, is an important element of the comprehensive offshore energy legal reform agenda.

2.4 The LNG Dependency: Legal, Economic, and Geopolitical Dimensions

The decision to prioritise LNG imports over domestic offshore exploration has created a dependency whose legal, economic, and geopolitical dimensions are now clearly visible. From a legal perspective, LNG import contracts create long-term obligations denominated in foreign currency, typically indexed to international oil prices, which expose Bangladesh to both price risk and counterparty risk. The fiscal implications of Bangladesh's LNG import programme have been severe: as the Prothom Alo investigation of August 2024 noted, Bangladesh's foreign exchange reserves fell below $20 billion at the end of January 2024, sufficient for only four months of imports, creating a financial crisis that required emergency support from the International Islamic Trade Finance Corporation.

The geopolitical dimensions of LNG dependency are equally concerning. LNG is imported primarily from Qatar, Malaysia, and occasionally the spot market, with prices that are volatile and that were severely disrupted by the Iran-related energy crisis of 2025. The concentration of supply on a small number of sources creates vulnerability to supply interruptions and price shocks that domestic production would mitigate. China's interest in Bangladesh's offshore blocks, expressed through Sinopec and CNOOC representatives attending the 2024 promotional seminar, adds a further geopolitical dimension: Chinese participation in Bangladesh's offshore development would provide capital and technical capacity but could also create the kind of infrastructure dependency that, as the Myanmar example with the Kyaukpyu pipeline demonstrates, gives Beijing significant strategic leverage over the host country.

From a legal theory perspective, the LNG dependency can be analysed through the lens of structural dependency theory in international political economy, which argues that developing states' integration into global commodity markets on terms determined by the structure of those markets tends to reproduce and deepen inequalities of power and wealth rather than to generate the development benefits that neoclassical economics predicts. Bangladesh's position as a commodity importer buying LNG at market prices, rather than a resource developer selling domestically produced gas at regulated prices, reproduces the patterns of structural dependency that the permanent sovereignty over natural resources principle was designed to overcome. This analysis does not necessarily imply that LNG imports were the wrong policy choice in all circumstances, but it underscores the urgency of developing domestic supply as a long-term strategic objective.

CHAPTER 3: THE PRODUCTION SHARING CONTRACT FRAMEWORK: A CRITICAL LEGAL ANALYSIS

3.1 The Structure and Philosophy of the PSC

The Production Sharing Contract is the dominant global model for the contractual governance of oil and gas exploration and production in developing states. It was pioneered by Indonesia in the 1960s and has since been adopted, in various modifications, by more than sixty states worldwide. The essential structure of the PSC is straightforward: the IOC provides all the capital and takes all the risk of exploration; if a commercial discovery is made, the IOC recovers its costs from a portion of the production, known as cost oil or cost gas, and then shares the remaining profit oil or profit gas with the host state in a negotiated proportion. If no commercial discovery is made, the IOC loses its entire exploration investment. The host state receives its share of profit oil or gas, and typically also a royalty and income tax on the IOC's profit share.

The PSC model is particularly attractive to developing states because it shifts the financial risk of unsuccessful exploration entirely to the IOC while ensuring the host state an equity share in any successful development. Unlike a concession or licence system, under which the IOC acquires the right to all production and pays taxes and royalties to the state, the PSC maintains formal state ownership of the resources throughout the process of development, with the IOC's interest characterised as a production entitlement rather than a property right in the resource itself. This characterisation is symbolically important for governments that are sensitive to the principle of permanent sovereignty over natural resources, and it has political advantages over the concession model, even where the economic substance of the two models may be similar.

The PSC model has been the subject of extensive academic and practitioner analysis in the law and economics of natural resources literature. The key variables in any PSC are the cost recovery ceiling, the profit split ratio, the royalty rate, the government tax take, and the definition of recoverable costs. These variables collectively determine the government take, the percentage of total revenues that flow to the state, and the contractor take, the percentage that flows to the IOC. Getting these variables right is a matter of balancing the host state's desire to maximise revenue with the need to leave the IOC with a sufficient return on its investment to justify the exploration risk.

The fundamental theoretical debate about PSC design concerns the relative merits of fixed and variable fiscal terms. Fixed terms provide contractual certainty for the IOC, reducing the political risk premium it incorporates into its investment decision. Variable terms, linked to production volumes, oil prices, or rate of return, provide a mechanism for the host state to capture a larger share of the upside when a large discovery is made or when oil prices are high, while maintaining the commercial viability of marginal fields when prices are low or fields are small.

Bangladesh's PSC-2023 framework, which replaced the PSC-2008's fixed gas price mechanism with an oil-indexed pricing structure and introduced a revenue-sharing model, represents a move in the direction of greater flexibility and commercial realism. As Petrobangla has stated, the revised framework is designed to make Bangladesh's offshore terms more competitive in the global market for IOC investment. The claim that Bangladesh has the third most attractive PSC in the world, made by the energy secretary quoted in the Prothom Alo article of August 2024, should be examined critically rather than accepted at face value: attractiveness depends not only on fiscal terms but on the quality of the geological data, the reliability of the legal and institutional framework, the efficiency of government approval processes, and the political risk environment.

3.2 The PSC and Sovereignty: The Debate Between Contractualists and Sovereigntists

The legal character of the PSC is contested between what might be termed the contractualist school, which regards the PSC as fundamentally a commercial contract governed by private law principles and enforceable through international arbitration, and the sovereigntist school, which regards the PSC as a public law instrument through which the state exercises its resource sovereignty and which therefore cannot be entirely divorced from the public law framework of the host state.

The contractualist position was most forcefully articulated in the context of the wave of nationalisations and contract renegotiations that swept through the oil-producing world in the 1970s, when OPEC states and other resource-exporting governments unilaterally modified or terminated existing concession agreements with IOCs. The International Centre for Settlement of Investment Disputes (ICSID) and the international arbitral community that developed around petroleum disputes consistently held that host states that had entered into explicit contractual commitments with IOCs could not unilaterally alter those commitments without triggering legal liability, regardless of the political motivations for doing so.

The sovereigntist position, articulated by scholars in the NIEO tradition and by governments asserting the right to regulate resource development in the national interest, insists that the PSC must always be understood within the context of the host state's legislative and regulatory authority. A contract that purports to lock in the terms of oil and gas development for twenty-five or thirty years, preventing the government from imposing new environmental regulations, safety standards, or fiscal requirements as those evolve, is in tension with the constitutional principle that the sovereign state retains the authority to regulate in the public interest, and any such purported waiver of regulatory authority must be interpreted strictly and narrowly.

The contemporary mainstream position in international investment law seeks a balance between these positions. The ICSID Arbitration Rules and the jurisprudence of major investment treaty tribunals have moved toward a framework that respects the host state's legitimate regulatory authority while holding it to the contractual commitments it has voluntarily entered into. The fair and equitable treatment standard, as interpreted in cases such as Tecmed v. Mexico (2003) and Saluka v. Czech Republic (2006), protects investors against the frustration of legitimate expectations created by the government's own representations while acknowledging that regulatory change for genuine public policy purposes is not, per se, a treaty violation.

Bangladesh's PSC framework must navigate this tension. The government must ensure that its contractual commitments to IOCs are credible and enforceable, providing the investment certainty that deep-water exploration requires. At the same time, it must preserve its authority to impose the environmental, safety, and fiscal regulations that responsible offshore development requires, including the climate-related regulations that the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion require. The design of a PSC framework that achieves both objectives requires sophisticated legal drafting and a clear understanding of the international investment law standards to which Bangladesh will be held.

3.3 Stabilisation Clauses: The Most Controversial Element of the PSC Framework

Stabilisation clauses are contractual provisions, common in PSC and other resource development agreements, that purport to protect the IOC against the adverse financial effects of future changes in the host state's law. They typically take one of three forms: freezing clauses, which provide that the law applicable to the contract is the law as it exists at the date of the agreement and that no subsequent changes in law shall affect the IOC's rights or obligations; economic equilibrium clauses, which provide that if changes in law adversely affect the economics of the project, the terms of the contract shall be adjusted to restore the original economic equilibrium; and hybrid clauses, which combine elements of both.

Stabilisation clauses have been the subject of extensive academic debate and significant controversy in the development policy community. Critics, including the UN Special Representative on Business and Human Rights, John Ruggie, in his 2008 report to the Human Rights Council, have argued that stabilisation clauses can prevent governments from imposing legitimate environmental, labour, and human rights regulations without triggering compensation obligations, effectively locking developing states into lower standards of protection than they would otherwise choose to adopt. This concern is particularly acute in the environmental context: if Bangladesh's PSC contains a stabilisation clause that could require it to compensate IOCs for the costs of complying with new environmental regulations required by the 2024 ITLOS Advisory Opinion's elaboration of UNCLOS obligations, the clause would effectively penalise the government for fulfilling its international law obligations.

The legal analysis of stabilisation clauses' interaction with international environmental obligations is complex. The argument that stabilisation clauses cannot effectively override a state's obligations under public international law, including its UNCLOS environmental obligations, has been made by several scholars and is supported by the principle that no treaty provision can authorise conduct that violates a peremptory norm of international law (jus cogens). While it is unclear whether the UNCLOS environmental obligations rise to the level of jus cogens, the general principle that states cannot contract out of their public international law obligations provides a basis for limiting the effect of stabilisation clauses where they conflict with international environmental requirements.

The practical answer to the stabilisation clause problem in PSC design is to distinguish between regulatory changes that are genuinely in the nature of normal regulatory evolution, applicable to all operators in the sector, and changes that are discriminatory, targeted at specific IOCs, or motivated by fiscal rather than regulatory objectives. A well-drafted stabilisation clause should protect IOCs against the latter while not insulating them from the former. The distinction can be maintained through careful drafting that limits the stabilisation commitment to non-discriminatory, non-confiscatory, good faith regulatory changes rather than all legal changes whatsoever.

Bangladesh's PSC-2023 framework reportedly contains stabilisation provisions, the precise terms of which have not been publicly disclosed. The opacity of the PSC framework is itself a significant governance concern: in a country committed to democratic accountability and the rule of law, the terms under which national resources are committed to private development should be transparent and subject to legislative oversight. The practice of treating PSC terms as commercial secrets, justified by the argument that disclosure would harm Bangladesh's

negotiating position in future rounds, is inconsistent with good governance principles and with the constitutional right of citizens to information about the management of national resources.

3.4 Dispute Settlement Provisions in Bangladesh's PSC: International Arbitration and its Discontents

The dispute settlement provisions of Bangladesh's PSC framework provide for international arbitration, typically under the ICC Rules or the UNCITRAL Arbitration Rules, as the primary mechanism for resolving disputes between Petrobangla and its IOC partners. International arbitration has several advantages for this purpose: it provides a neutral forum not subject to the perception of home court advantage that domestic courts would present; it allows parties to select arbitrators with the relevant technical expertise in petroleum law; its confidential proceedings protect commercially sensitive information; and its awards are enforceable in over 150 states under the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards.

However, the use of international arbitration as the dispute settlement mechanism for petroleum development agreements raises significant concerns from a public law and sovereignty perspective. International arbitral tribunals constituted under commercial arbitration rules are not subject to the same requirements of transparency, consistency, and public accountability as international courts. Their jurisdiction is limited to the contractual dispute and does not extend to the public interest considerations that should inform the governance of national resources. And their tendency, historically, to favour IOC interpretations of contractual and treaty provisions over host state regulatory measures has been a source of significant concern for developing state governments.

Bangladesh's experience with international arbitration, though primarily in the maritime boundary context rather than the petroleum sector, provides grounds for optimism about its capacity to advocate effectively for its interests in arbitral proceedings. The legal skills and international law expertise demonstrated in the ITLOS Case No. 16 and the PCA Bangladesh-India arbitration are directly relevant to petroleum contract arbitration, and the development of a cadre of Bangladeshi lawyers specialising in petroleum dispute resolution is an important long-term institutional objective.

The question of whether Bangladesh should consider including investment treaty arbitration provisions in its PSC framework, in addition to contract arbitration provisions, is complex. Investment treaty arbitration under the ICSID Convention or under bilateral investment treaties would give IOCs an additional layer of protection against host state regulatory actions, but it would also expose Bangladesh to the full force of the international investment law system, including its substantive standards of fair and equitable treatment and prohibition of expropriation. Given the significant environmental and regulatory obligations that Bangladesh faces in the offshore context, the extension of ICSID arbitral jurisdiction to disputes over those regulatory measures could constrain Bangladesh's regulatory freedom in ways that are inconsistent with its international environmental obligations.

CHAPTER 4: THE ENVIRONMENTAL GOVERNANCE OF OFFSHORE HYDROCARBON DEVELOPMENT: INTERNATIONAL OBLIGATIONS AND DOMESTIC INADEQUACY

4.1 The UNCLOS Environmental Framework and Offshore Energy Activities

The environmental governance of offshore hydrocarbon exploration and production is one of the most demanding areas of maritime environmental law, because offshore operations involve uniquely concentrated and potentially catastrophic environmental risks in sensitive marine environments. The Deepwater Horizon disaster of 2010, which released approximately 780,000 cubic metres of crude oil into the Gulf of Mexico and caused economic and ecological damage of staggering proportions, demonstrated the scale of the environmental harm that offshore drilling failures can cause, even in a technologically advanced jurisdiction with an established regulatory framework. For Bangladesh, a country whose coastal environment is already severely stressed by climate change, where the mangrove forests of the Sundarbans provide irreplaceable ecological services to tens of millions of people, and whose fishing communities depend on the marine environment for their survival, the environmental risks of offshore development demand the highest standards of governance.

UNCLOS Part XII provides the international legal framework for the environmental governance of offshore hydrocarbon activities. Article 194(3)(c) specifically provides that the measures taken in pursuance of Part XII shall deal with pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, including the prevention of accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation, and manning of such installations or devices. This provision creates a specific obligation for coastal states to establish regulatory frameworks covering the full lifecycle of offshore development activities from exploration through decommissioning.

Article 208 of UNCLOS requires coastal states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations, and structures under their jurisdiction. These laws and regulations shall be no less effective than international rules, standards, and recommended practices and procedures. The reference to international rules and standards is significant: it means that Bangladesh's domestic environmental regulations for offshore activities must meet the standards established by the international petroleum industry's environmental governance frameworks, including those developed by the IMO, the OSPAR Commission, the ISO, and the major international petroleum organisations.

Bangladesh's current domestic regulatory framework for offshore environmental governance is inadequate to these requirements. The Territorial Waters and Maritime Zones Act of 2021, as amended, contains general provisions on marine pollution prevention but does not establish the specific regulatory standards, monitoring requirements, emergency response obligations, and liability regimes that the offshore petroleum sector requires. Bangladesh has no dedicated offshore petroleum safety and environmental regulation comparable to the UK Health and Safety Executive's offshore regulatory functions, the Norwegian Petroleum Safety Authority, or the US

Bureau of Safety and Environmental Enforcement. This institutional gap is a significant vulnerability, and the failure of a major offshore installation in Bangladesh's EEZ without a robust regulatory and emergency response framework in place could be catastrophic.

4.2 The 2024 ITLOS Advisory Opinion and its Implications for Offshore Energy Governance

The Advisory Opinion delivered by the International Tribunal for the Law of the Sea on 21 May 2024 in Case No. 31, the first climate change case handled by any international judicial body, has profound and specific implications for the governance of offshore hydrocarbon development in Bangladesh and globally. The Tribunal's unanimous confirmation that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of UNCLOS, and that states have due diligence obligations under Part XII to prevent, reduce, and control such pollution, connects the ancient body of maritime law directly with the most urgent challenge of contemporary environmental governance.

The implications for offshore hydrocarbon development are stark. If greenhouse gas emissions from the burning of fossil fuels constitute marine pollution, and if states have due diligence obligations to prevent, reduce, and control such pollution, then the licensing of offshore hydrocarbon exploration and production is itself an activity that potentially engages states' UNCLOS obligations. A state that licenses offshore drilling activities that will, if successful, result in the production and eventual combustion of hydrocarbons is, in a meaningful sense, authorising an activity that contributes to marine pollution. The question is whether the due diligence standard under UNCLOS requires states to take this into account in their offshore licensing decisions, and if so, how.

The Tribunal addressed this question obliquely, emphasising that the due diligence obligation under UNCLOS Part XII is an obligation of conduct rather than result, requiring states to do their best to achieve a specific goal or objective with the means available to them and in accordance with the circumstances. The standard is a stringent one, given the high risks of serious and irreversible harm to the marine environment from climate change impacts, but it is calibrated by the state's capabilities and by the relevant international rules and standards, including the UNFCCC and the Paris Agreement. This formulation suggests that the ITLOS Advisory Opinion does not require states to immediately cease licensing all hydrocarbon development, but it does require them to take climate considerations seriously in their offshore development governance.

More specifically, the Advisory Opinion confirmed that states have obligations to conduct environmental impact assessments for activities that may cause substantial pollution or significant and harmful changes to the marine environment, and that these EIAs must address cumulative impacts, including the climate change impacts of greenhouse gas emissions. For Bangladesh, this means that the PSC framework must require IOCs to conduct comprehensive environmental impact assessments that address not only the direct environmental risks of drilling and production operations but the cumulative climate impacts of the greenhouse gas emissions that the produced hydrocarbons will ultimately generate.

The Advisory Opinion also confirmed that states have obligations to protect and preserve rare or fragile ecosystems, including mangrove ecosystems and coral reefs. For Bangladesh, with the Sundarbans mangrove ecosystem adjacent to its offshore development areas, this obligation is particularly significant. An offshore oil or gas spill affecting the Sundarbans would constitute a severe breach of Bangladesh's UNCLOS obligations, and the regulatory framework must ensure that the risk of such a spill is reduced to the lowest possible level through appropriate siting restrictions, technical requirements, and emergency response systems.

The Inter-American Court of Human Rights Advisory Opinion OC-32/25 of 2025, which brought the ocean explicitly into the human rights framework and confirmed that ocean degradation including acidification, warming, and biodiversity loss undermines human survival, adds a human rights dimension to the environmental governance obligations that the ITLOS Advisory Opinion established. The combination of UNCLOS environmental obligations, confirmed and elaborated by the ITLOS Advisory Opinion, and international human rights law obligations, confirmed by the IACtHR Advisory Opinion, creates a comprehensive international legal framework within which Bangladesh's offshore energy governance must operate. The domestic legal framework must be updated to reflect these international obligations.

4.3 The Environmental Impact Assessment Obligation: International Standards and Bangladesh's Domestic Framework

Environmental impact assessment (EIA) is the central procedural mechanism through which the environmental governance obligations confirmed by the ITLOS Advisory Opinion are given practical effect. The general obligation to conduct EIA for activities that may cause significant harm to the marine environment is firmly established in customary international law, confirmed by the International Court of Justice in Pulp Mills on the River Uruguay (2010) and Certain Activities in the Border Area (2015), and now elaborated specifically in the ITLOS climate change context.

The substantive content of the EIA obligation for offshore petroleum activities is determined by the best available international standards. The ISO 14001 Environmental Management System standard, the IPIECA/API Environmental Impact Assessment Guidelines for the Oil and Gas Industry, and the IFC Performance Standards on Environmental and Social Sustainability (revised in 2012) provide the most widely used international standards for EIA in the petroleum sector. The IFC Performance Standards are particularly significant because they are incorporated by reference in the environmental conditionality of World Bank Group lending, including that of the IFC itself, and in the Equator Principles adopted by major international banks as a condition of project finance. IOCs raising finance from Equator Principles banks will be required to meet IFC Performance Standard requirements, creating a private governance mechanism that reinforces the regulatory framework.

Bangladesh's existing EIA framework, established under the Environment Conservation Act of 1995 and the Environment Conservation Rules of 1997, requires EIA for major development projects including offshore petroleum activities. However, the framework has several significant weaknesses in the offshore context. The categories of projects requiring EIA and the specific procedural requirements are determined by the Department of Environment, which has limited

technical expertise in offshore petroleum operations and limited institutional capacity for the oversight of complex offshore EIA processes. The standards for the assessment of cumulative impacts, in particular the climate change impacts of produced hydrocarbons, are not defined in the regulations. And the public participation requirements of the EIA process, while nominally applicable to offshore projects, are practically difficult to implement for offshore activities remote from the communities most likely to be affected.

The reform of Bangladesh's EIA framework for offshore petroleum activities, to bring it into conformity with international best practice and to address the specific requirements of the ITLOS Advisory Opinion, is a priority element of the comprehensive offshore energy legal reform agenda. The reform should include: specific technical standards for offshore petroleum EIA based on international best practices; requirements for the assessment of cumulative climate impacts as part of the EIA process; enhanced public participation requirements for offshore EIA that ensure the meaningful engagement of fishing communities and other coastal stakeholders; a requirement for independent technical review of offshore EIA documents; and a post-approval monitoring and compliance mechanism.

4.4 Offshore Oil Spill Liability and Compensation: The International Framework and Bangladesh's Gaps

The liability framework for offshore oil spills is one of the most complex and most practically important dimensions of offshore environmental governance. The Deepwater Horizon disaster, in which BP's total economic losses from the spill, including cleanup costs, fines, and compensation to affected parties, exceeded 60 billion US dollars, demonstrated the economic as well as ecological magnitude of offshore pollution events. The legal framework for spill liability must ensure that the costs of spills are borne by the responsible parties rather than by the public or by affected communities, and it must create the right financial incentives for the prevention of spills through investment in safety and environmental management.

The international legal framework for offshore pollution liability is fragmentary. The MARPOL Convention addresses vessel-source pollution but does not specifically address pollution from offshore installations. The 1976 Convention on Civil Liability for Oil Pollution Damage from Offshore Operations (London Convention), which was intended to establish an international liability framework for offshore spills, has attracted only three ratifications and is not in force. In the absence of a binding international framework, the liability for offshore spills is governed primarily by domestic law.

The most developed domestic frameworks for offshore spill liability are those of the United States, the United Kingdom, and Norway. The US Oil Pollution Act of 1990, enacted in response to the Exxon Valdez disaster, establishes strict liability for offshore operators, requires the maintenance of financial assurance instruments, and creates the Oil Spill Liability Trust Fund as a supplementary compensation mechanism. The UK Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995 and related legislation establish strict safety requirements and a liability framework that includes both criminal and civil liability for offshore operators. Norway's Petroleum Activities Act of 1996 and its associated regulations

provide for strict liability, financial security requirements, and the government's ability to require operators to pay for spill cleanup regardless of fault.

Bangladesh's domestic framework for offshore spill liability is inadequate. The Territorial Waters and Maritime Zones Act and the Bangladesh Marine Fisheries Act contain provisions on pollution prevention and penalties for pollution violations, but they do not establish the comprehensive civil liability and compensation regime that offshore petroleum activities require. There is no specific provision for strict liability of offshore operators for pollution damage, no requirement for operators to maintain financial security against pollution liability, and no mechanism for the rapid deployment of spill response resources. The remediation of this gap through comprehensive offshore energy legislation is a matter of considerable urgency, given that the commencement of offshore exploration activities in Bangladesh's EEZ could begin within the next several years if the BNP government succeeds in attracting IOC investment.

4.5 Climate Change Obligations and the Paradox of Offshore Development in a Climate-Vulnerable State

The paradox at the heart of Bangladesh's offshore energy governance is one of the most intellectually challenging problems in contemporary international environmental law. Bangladesh is, simultaneously, one of the countries most severely affected by climate change, with an already-documented record of sea-level rise, coastal erosion, saline intrusion, and increased cyclonic intensity, and one of the countries most eager to develop its offshore hydrocarbon resources as a driver of economic development. The 2024 ITLOS Advisory Opinion's confirmation that greenhouse gas emissions constitute marine pollution under UNCLOS, and that states have due diligence obligations to prevent such pollution, raises the question of whether Bangladesh can, consistently with its international legal obligations, license the offshore development of fossil fuels that will contribute to the very climate change impacts that are devastating its coastal communities.

This question cannot be resolved by a simple yes or no, but it must be addressed honestly in any comprehensive legal commentary on Bangladesh's offshore energy governance. The analysis has several dimensions.

First, the ITLOS Advisory Opinion's due diligence standard is calibrated by the state's capabilities and by the relevant international rules and standards. The Paris Agreement, which the Tribunal identified as one of the relevant international standards for the content of UNCLOS obligations, acknowledges the principle of common but differentiated responsibilities: developed states with high historical emissions and high technological and financial capacity have greater obligations to reduce emissions than developing states with low historical emissions and limited capacity. Bangladesh's greenhouse gas emissions are minimal in global terms. Its contribution to the climate change that is devastating its own coastline is negligible compared to the contributions of the major economies whose industrial development over the past two centuries has caused the overwhelming majority of accumulated atmospheric greenhouse gas concentrations.

Second, the development of domestic gas resources, however it contributes to global emissions at the margin, is not comparable in climate terms to the continued expansion of coal consumption in major developing economies. Natural gas, if developed to replace coal in Bangladesh's electricity generation mix, can actually reduce Bangladesh's domestic greenhouse gas emissions intensity per unit of energy. The relevant comparison is not between offshore gas development and zero emissions but between offshore gas development and the LNG imports that currently sustain Bangladesh's gas-dependent energy sector.

Third, the emerging energy transition creates a different long-term frame for the analysis. As global demand for fossil fuels declines over the coming decades in response to the energy transition, early-developed offshore gas fields that are brought into production in the 2030s may become stranded assets by the 2050s, when Bangladesh's energy sector should ideally be largely decarbonised. The temporal alignment between the long timelines of offshore development and the imperatives of the energy transition is a significant commercial and policy risk that must be incorporated into Bangladesh's offshore energy planning.

The appropriate legal response to this paradox is not to prohibit offshore hydrocarbon development but to design a legal framework that maximises the benefits of domestic resource development while minimising its environmental impacts, ensures that the revenues generated are used for climate adaptation and the energy transition, and provides the flexibility to adjust the pace and scale of development as the energy transition progresses. This requires a comprehensive offshore energy legal framework that integrates climate considerations at every stage of the development process, from licensing and EIA through production and decommissioning.

CHAPTER 5: THE FISCAL ARCHITECTURE OF OFFSHORE ENERGY GOVERNANCE: REVENUE MANAGEMENT, TRANSPARENCY, AND THE PREVENTION OF THE RESOURCE CURSE

5.1 The Theory of Petroleum Revenue Management

The management of revenues generated from offshore petroleum development is one of the most important and most challenging dimensions of offshore energy governance. The experience of oil-producing developing states over the past half-century provides overwhelming evidence that petroleum revenues can be either a transformative source of development finance or a catalyst for the institutional decay, corruption, and conflict that the resource curse literature describes. The difference between success and failure depends critically on the legal and institutional framework for revenue management.

The theoretical foundations of good petroleum revenue management are well established in the academic literature. The permanent income hypothesis, first applied to petroleum revenues by economists at the IMF and the World Bank, suggests that a resource-exporting state should not spend its petroleum revenues as they are received, because petroleum is a depleting asset and spending its revenues in the present generation is equivalent to consuming the capital of future

generations. Instead, the state should invest the revenues to build a permanent income stream that will sustain living standards after the resource is exhausted. This theoretical framework is the foundation of sovereign wealth fund mechanisms, most famously the Norwegian Government Pension Fund Global, which has accumulated assets of over 1.7 trillion US dollars from Norway's oil revenues.

The principal-agent problem in petroleum revenue management describes the challenge of ensuring that the agents who manage petroleum revenues, government officials and state oil company managers, act in the interest of the principals they nominally serve, the citizens of the state. In the absence of strong accountability mechanisms, the political and personal incentives of officials managing large petroleum revenues may diverge significantly from the public interest. The history of petroleum revenue mismanagement in developing states, from Nigeria's oil wealth squandered in successive rounds of corruption and political dysfunction to Libya's and Venezuela's self-destructive petroleum policies, provides sobering evidence of the severity of this principal-agent problem.

The legal mechanisms for managing the principal-agent problem in petroleum revenue management include transparency requirements, independent audit and oversight mechanisms, legislative control over revenue allocation, constitutional provisions ring-fencing petroleum revenues for development spending, and sovereign wealth fund frameworks that insulate revenues from short-term political pressures. The EITI (Extractive Industries Transparency Initiative), of which Bangladesh is a candidate country, provides an international framework for the disclosure of payments between governments and companies in the oil, gas, and mining sectors, serving as an external accountability mechanism that supplements domestic oversight.

5.2 The Bangladesh EITI Process and its Implications for Offshore Governance

Bangladesh became a candidate member of the Extractive Industries Transparency Initiative in 2014 and has been engaged in the EITI process of multi-stakeholder disclosure and governance reform since that date. The EITI Standard requires candidate countries to establish a multi-stakeholder group that includes government, industry, and civil society representatives; to commission independent reconciliation reports that compare payments from companies to government receipts; and to publish the results of the reconciliation process with a commentary on discrepancies.

The Bangladesh EITI process has provided valuable information about the governance of the onshore petroleum sector, but its extension to the offshore context will require significant enhancement of the disclosure and reporting framework. Offshore petroleum development involves more complex contractual and financial structures than onshore production, including PSC mechanisms, cost recovery provisions, and profit-sharing calculations that require detailed technical and financial expertise to audit and disclose accurately. The capacity building needed to implement EITI disclosure effectively in the offshore context is substantial.

The EITI process in Bangladesh has revealed several governance challenges in the existing petroleum sector, including delays in the submission of EITI reports, data quality issues, and limited civil society capacity to engage with the technical aspects of the disclosed information.

These challenges must be addressed before offshore production commences, to ensure that the disclosure framework is functioning effectively when the governance stakes are highest.

5.3 Constitutional Dimensions of Petroleum Revenue Management in Bangladesh

The constitutional framework for the management of Bangladesh's petroleum revenues is an important dimension of the governance architecture that has received insufficient attention in the academic literature. Article 14 of the Bangladesh Constitution establishes that it shall be a fundamental responsibility of the State to emancipate the toiling masses, the peasants and workers, and backward sections of the people from all forms of exploitation. Article 15 establishes the fundamental responsibilities of the state to provide the basic necessities of life, including food, clothing, shelter, education and medical care. Article 18A, introduced by the Fifteenth Amendment in 2011, provides that the State shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests, and wildlife for the citizens.

These constitutional provisions provide a framework for arguing that the revenues from the development of Bangladesh's natural resources, including offshore petroleum, must be used in a manner consistent with the constitutional objectives of social emancipation, poverty eradication, and environmental protection. They do not, of course, specify how this must be done, but they provide a constitutional basis for legislative requirements that petroleum revenues be allocated to specific development and environmental objectives rather than absorbed into the general revenue.

The constitutional argument for a dedicated petroleum revenue fund, analogous to Norway's Government Pension Fund or to the Alaska Permanent Fund that distributes oil revenue dividends directly to Alaskan citizens, can be grounded in Articles 14 and 15's commands that the state use national resources for the benefit of the toiling masses and backward sections of the people. The legal design of such a fund, specifying its investment mandate, its governance structure, its rules for withdrawal, and its accountability mechanisms, would be an important element of Bangladesh's comprehensive offshore energy legal reform.

5.4 Transfer Pricing, Cost Recovery Auditing, and the Prevention of Revenue Leakage

One of the most significant practical challenges in the management of PSC revenues in developing states is the prevention of revenue leakage through transfer pricing manipulation and inflated cost recovery claims. Transfer pricing refers to the prices charged for goods, services, and intellectual property transferred between related parties within a corporate group, typically between an IOC's overseas affiliates and its operating subsidiaries in the host country. Where these transfer prices are set above market rates, they inflate the cost recovery entitlement of the IOC, reducing the profit oil available for sharing with the host state.

The problem is particularly acute in the petroleum sector because the goods and services used in offshore development, including drilling rigs, seismic survey vessels, specialised engineering services, and proprietary technology, are often supplied by affiliates of the IOC at prices that are not directly comparable to arm's-length market prices. The determination of the appropriate

transfer price for these intra-group transactions requires sophisticated technical and financial analysis that developing state tax authorities often lack the capacity to conduct.

The legal framework for transfer pricing in Bangladesh's petroleum sector is provided primarily by the Income Tax Ordinance of 1984 (as amended) and the Transfer Pricing Regulations, which apply OECD arm's-length principles to related-party transactions. However, the specific application of transfer pricing rules to the petroleum sector requires sector-specific guidance that addresses the unique characteristics of intra-company transactions in offshore development, including drilling services, seismic data, and technology licences.

The cost recovery auditing function of Petrobangla, which is responsible for verifying that IOCs' cost recovery claims under PSC arrangements are properly supported by underlying expenditure records, is another critical element of petroleum revenue governance. The effectiveness of this function depends on Petrobangla having the technical and financial audit capacity to challenge IOC cost claims, the legal authority to access IOC records, and the organisational independence to resist pressure from IOCs or from within the government to accommodate inflated claims. Strengthening this function requires both legislative reform, to ensure that PSC provisions give Petrobangla clear audit rights and dispute resolution mechanisms, and institutional investment, to build the human resource capacity needed for effective cost auditing.

CHAPTER 6: OFFSHORE RENEWABLE ENERGY AND THE ENERGY TRANSITION: LEGAL FRAMEWORKS FOR A NEW MARITIME ECONOMY

6.1 The Offshore Wind Energy Revolution and its Relevance to Bangladesh

The global energy transition is creating an entirely new dimension of offshore maritime resource development: offshore renewable energy, most notably offshore wind, but also tidal, wave, and floating solar technologies. The offshore wind industry has undergone a technological revolution in the past decade, with turbine sizes increasing from 3-4 megawatts to 12-15 megawatts, installation costs falling dramatically, and the frontier of economically viable offshore wind moving from the shallow waters of the North Sea to increasingly deep water sites around the world. Total installed offshore wind capacity globally is now approaching 100 gigawatts, with China and Europe leading the way and projects under development in Southeast Asia, South Asia, and other emerging markets.

For Bangladesh, the potential of offshore wind energy is significant but complicated by the Bay of Bengal's specific environmental conditions. The Bay of Bengal is subject to intense tropical cyclones, with sustained wind speeds regularly exceeding 200 kilometres per hour during major events, creating severe structural challenges for offshore wind infrastructure. The monsoon season brings powerful waves and significant sea conditions for extended periods. And the water depths in Bangladesh's EEZ, which range from the relatively shallow continental shelf to the deep waters of the Bengal Fan, create a range of installation challenges depending on the technology selected.

Notwithstanding these challenges, several recent assessments have identified significant offshore wind potential in the more sheltered areas of Bangladesh's coastal zone and in the intermediate water depths of the northern Bay of Bengal. The development of this potential requires a specific legal framework for the licensing, regulation, and grid integration of offshore wind energy, a framework that does not currently exist in Bangladesh.

6.2 The Legal Framework for Offshore Renewable Energy Licensing

UNCLOS Article 56 provides the legal basis for coastal state jurisdiction over offshore renewable energy installations in the EEZ. Article 56(1)(b)(i) specifically includes jurisdiction with respect to artificial islands, installations, and structures among the coastal state's rights in the EEZ, and this jurisdiction is broadly understood to encompass the licensing and regulation of offshore energy installations. Article 60 elaborates this jurisdiction, providing that the coastal state has the exclusive right to construct and to authorise and regulate the construction, operation, and use of artificial islands, installations, and structures for any purposes, including those covered by Article 56.

The application of this framework to offshore renewable energy requires the development of a specific licensing regime that addresses the unique characteristics of offshore wind, tidal, and other renewable energy technologies. The key elements of such a regime include: site designation, through marine spatial planning, of areas of the EEZ where offshore renewable energy development is permitted, protected from navigation, fishing, and other conflicting uses; a competitive licensing process for the allocation of development rights within designated areas; technical standards for the construction, operation, and decommissioning of offshore installations; environmental impact assessment requirements; and a fiscal framework for the taxation of offshore renewable energy revenues.

Bangladesh currently has no specific legal framework for offshore renewable energy licensing. The offshore petroleum regime, based on the PSC model, is not appropriate for renewable energy licensing, which involves very different commercial structures, risk profiles, and investment models. The development of a dedicated offshore renewable energy law is a priority legislative reform that is entirely compatible with, and complementary to, the reform of the offshore petroleum regime. The simultaneity of these two reforms provides an opportunity to develop an integrated offshore energy legal framework that addresses both technologies within a coherent regulatory architecture.

6.3 The Energy Transition and the Future of Offshore Petroleum in Bangladesh

The global energy transition creates a profound strategic challenge for Bangladesh's offshore petroleum programme. The timeline for offshore development, from exploration to first production, is typically ten to fifteen years, and the economic life of a producing field may extend for twenty to thirty years. This means that offshore gas fields discovered today might still be producing in the 2060s, by which time the global energy system should, if the Paris Agreement's objectives are met, be largely decarbonised. The commercial value of offshore gas resources is therefore subject to a significant transition risk: the risk that the demand for fossil

fuels will decline more rapidly than expected, leaving offshore fields developed at great capital cost generating revenues far below projections.

This transition risk must be incorporated into Bangladesh's legal and policy framework for offshore energy. The PSC fiscal terms should be designed with the possibility of early project termination in mind, ensuring that the government recovers a proportionate share of the economic value generated by offshore resources even if fields are shut down earlier than originally anticipated due to declining demand. Environmental decommissioning obligations should be clearly specified in the PSC, ensuring that IOCs bear the full cost of restoring the seabed environment when production ceases, rather than leaving legacy liabilities for the government.

The concept of a just energy transition, which has emerged as a central theme in international climate policy, provides a framework for thinking about how Bangladesh can navigate the transition from fossil fuel dependency to renewable energy in a manner that is equitable to the workers and communities whose livelihoods depend on the fossil fuel sector. The development of offshore gas resources and the simultaneous development of offshore renewable energy are not necessarily incompatible; a carefully managed transition can use the revenues from gas development to finance the renewable energy infrastructure that will eventually replace it.

CHAPTER 7: DEEP-SEA MINING AND THE INTERNATIONAL SEABED AUTHORITY: BANGLADESH'S ENGAGEMENT WITH THE FRONTIER OF RESOURCE LAW

7.1 The Legal Regime for the Area: The Common Heritage of Mankind in Practice

Beyond Bangladesh's continental shelf and EEZ, the seabed and its resources are governed by the common heritage of mankind principle, institutionalised through the International Seabed Authority (ISA), established by UNCLOS as the body through which states parties to the Convention organise and control activities in the Area, particularly with a view to administering its resources. The ISA, based in Kingston, Jamaica, is responsible for the negotiation and adoption of the Mining Code, the framework of regulations governing the exploration and exploitation of mineral resources in the deep seabed.

The deep-seabed mineral resources of primary commercial interest include polymetallic nodules, which contain manganese, nickel, cobalt, and copper; polymetallic sulphides, which are associated with hydrothermal vent systems and contain copper, zinc, lead, gold, and silver; and cobalt-rich ferromanganese crusts, which occur on seamounts and ridge flanks. These resources are of growing strategic importance as the energy transition increases demand for the metals used in batteries, electric motors, and other clean energy technologies, including nickel, cobalt, and manganese.

Bangladesh is a member of the ISA and participates in its governing bodies, including the Council and the Legal and Technical Commission. Bangladesh's engagement with the ISA is

primarily through its participation in negotiations on the Mining Code, where it represents the interests of developing states that want the Area's resources governed in a manner consistent with the equity principles of the common heritage framework. Bangladesh has not itself applied for exploration contracts in the Area, lacking both the financial resources and the technical capacity for deep-sea mining operations, but it has an interest in ensuring that the ISA framework provides fair terms for the participation of developing states, including through the Enterprise, the ISA's own mining arm, and through the technology transfer obligations of the UNCLOS framework.

7.2 The Controversy over Deep-Sea Mining: Environmental, Legal, and Geopolitical Dimensions

Deep-sea mining is one of the most controversial frontier issues in international maritime governance, generating intense debate among scientists, environmental advocates, policymakers, and industry representatives. The environmental case against deep-sea mining is powerful: the deep-sea ecosystems of the abyssal plain, where polymetallic nodules are found, are among the least disturbed environments on earth, home to extraordinary biodiversity that is very poorly understood. Mining operations would destroy large areas of seabed habitat, creating sediment plumes that could affect marine life over vast distances, and the recovery of disturbed ecosystems, if it occurs at all, would take decades or centuries.

The legal controversy centres on the interpretation of the common heritage of mankind principle and the mandate of the ISA. The original UNCLOS framework envisioned the ISA as a mechanism for ensuring that the benefits of deep-seabed resource development accrued to all of mankind, especially developing states, through the Enterprise's participation in mining operations, the sharing of technology with developing states, and the allocation of a portion of revenues to the international community. However, the 1994 Implementation Agreement, which modified the Part XI framework to address the objections of developed states, significantly diluted these redistributive provisions, reducing the Enterprise's guaranteed participation and weakening the technology transfer requirements.

The current ISA Mining Code negotiations, which are developing the Exploitation Regulations for the commercial phase of deep-sea mining, are the subject of intense geopolitical pressure. Several states, including China, Japan, and a group of Pacific Island states sponsoring exploration contracts, are eager to begin commercial exploitation of deep-sea nodule deposits, while a growing number of states, including Pacific Island countries that are directly dependent on healthy deep-sea ecosystems for their survival, are calling for a moratorium on deep-sea mining pending better scientific understanding of its environmental impacts.

For Bangladesh, the deep-sea mining debate has both environmental and strategic dimensions. Bangladesh shares the Pacific Island states' concern about the environmental impacts of deep-sea mining, whose sediment plumes could potentially affect marine ecosystems throughout the Indian Ocean, including those in Bangladesh's EEZ. At the same time, Bangladesh has an interest in the equitable governance of the Area's resources, including access for developing states to any benefits generated by resource extraction in the Area. Bangladesh's diplomatic posture in ISA negotiations should reflect both of these interests, advocating for precautionary

environmental governance while ensuring that the common heritage principle remains meaningful.

CHAPTER 8: OFFSHORE ENERGY GOVERNANCE AND HUMAN RIGHTS: COMMUNITY RIGHTS, COASTAL POPULATIONS, AND THE DUTY OF CORPORATIONS

8.1 The Ruggie Framework and its Application to Offshore Petroleum in Bangladesh

The United Nations Guiding Principles on Business and Human Rights, developed by Special Representative John Ruggie and endorsed by the UN Human Rights Council in 2011, establish a framework of responsibilities for states and corporations in relation to human rights in the business context. The framework consists of three pillars: the state duty to protect against human rights abuses by third parties, including businesses; the corporate responsibility to respect human rights; and the need for greater access to remedy for those whose rights have been harmed.

Applied to offshore petroleum development in Bangladesh, the Ruggie Framework has several specific implications. The state's duty to protect requires the government to ensure that its regulatory framework for offshore development adequately protects the human rights of communities likely to be affected by offshore activities, including fishing communities whose livelihoods depend on the marine environment in areas where exploration and production will take place. This duty is not merely a moral aspiration; it is a legal obligation that the state must fulfil in its capacity as a party to international human rights instruments.

The corporate responsibility to respect human rights requires IOCs operating in Bangladesh's offshore areas to conduct human rights due diligence, identifying, preventing, mitigating, and accounting for how they address their impacts on human rights. This responsibility encompasses the rights of coastal fishing communities to livelihood and food, which could be affected by offshore operations; the rights of coastal populations to a healthy environment, which could be affected by pollution from offshore activities; and the rights of workers on offshore installations to safe working conditions and freedom from forced or child labour.

The Bangladesh Human Rights Commission and civil society organisations have increasingly engaged with the human rights dimensions of resource development, and the strengthening of this engagement in the offshore energy context is an important element of the governance architecture. The legal framework for offshore energy should specifically require IOCs to conduct human rights impact assessments as part of the project planning process, to establish grievance mechanisms that are accessible to affected communities, and to report publicly on their human rights performance.

8.2 Free, Prior and Informed Consent and the Rights of Coastal Communities

The principle of Free, Prior and Informed Consent (FPIC), developed primarily in the context of the rights of indigenous peoples under the UN Declaration on the Rights of Indigenous Peoples

(UNDRIP), has been extended by some scholars and advocacy groups to apply more broadly to any community that has a special relationship with the land or sea resources affected by development activities. Applied to the fishing communities of Bangladesh's coastal zone, the FPIC principle would require the government to obtain their meaningful consent before licensing offshore development activities that would significantly affect their access to fish stocks, their use of the sea, or the quality of the marine environment on which they depend.

The application of FPIC to non-indigenous coastal communities is contested in international law; UNDRIP applies specifically to indigenous peoples, and the majority of Bangladesh's coastal fishing communities do not meet the criteria for indigenous status under international law. However, the principle's underlying rationale, that communities with special relationships with natural resources deserve special consideration in development decisions affecting those resources, is broadly applicable, and several international instruments, including the FAO Small-Scale Fisheries Guidelines discussed in Part Five, advocate for the participation and consent of fishing communities in decisions affecting their access to marine resources.

Bangladesh's legal framework does not currently require the consultation or consent of coastal fishing communities in the offshore energy licensing process. The PSC framework does not require IOCs to conduct community consultations before commencing exploration activities, and the EIA process, while nominally including public participation requirements, does not ensure the meaningful participation of remote coastal fishing communities in the assessment of offshore projects. Addressing this gap through legislative reform, incorporating meaningful consultation and participation requirements for offshore licensing decisions, is both a human rights obligation and a practical necessity for the long-term social licence of offshore development.

8.3 Gender, Offshore Energy, and the Rights of Coastal Women

The gender dimensions of offshore energy governance in Bangladesh parallel those of fisheries governance discussed in Part Five but have their own specific characteristics. Women in coastal fishing communities bear disproportionate risks from offshore development because their livelihoods are concentrated in the nearshore coastal areas most vulnerable to the environmental impacts of offshore operations, including oil spills, disruption of fish stocks, and competition for sea space. Women's post-harvest roles in fish processing, which are conducted in the coastal zone, are directly exposed to the economic and environmental impacts of offshore development on fish supply.

At the same time, offshore energy development can create economic opportunities for coastal communities, including employment in onshore support services, processing of offshore industry supplies, and the provision of goods and services to offshore workers. Ensuring that women have equitable access to these economic opportunities requires targeted legal and institutional measures, including non-discriminatory employment requirements in offshore service contracts, training programmes for women in skills relevant to the offshore industry, and the inclusion of women's representatives in all governance structures for offshore energy development.

The gender-blindness of Bangladesh's current offshore energy legal framework is a significant governance failure. Neither the PSC framework, nor the Petrobangla Ordinance, nor any of the

applicable regulatory instruments addresses gender equality in offshore energy governance. This must be remedied in the comprehensive reform agenda.

CHAPTER 9: MARITIME SECURITY, CRITICAL INFRASTRUCTURE PROTECTION, AND THE LEGAL GOVERNANCE OF OFFSHORE INSTALLATIONS

9.1 Offshore Installations as Critical Infrastructure: The UNCLOS Framework

Offshore petroleum installations, submarine pipelines, and subsea telecommunications cables constitute critical infrastructure of Bangladesh's future blue economy, and their security is a matter of national importance that must be addressed in the legal framework governing maritime activities. UNCLOS Article 60 authorises the establishment of safety zones around artificial islands, installations, and structures, with a maximum breadth of 500 metres from each point of their outer edge. Within these safety zones, the coastal state may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations, and structures.

The legal basis for more comprehensive protection of offshore critical infrastructure goes beyond the safety zone concept. The duty to protect offshore installations from terrorist attack, criminal damage, or interference by foreign state actors is grounded in the general duty of the coastal state to exercise its sovereign rights over EEZ and continental shelf resources, which includes the right to protect the infrastructure through which those rights are exercised. The SUA Convention (Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation) and its 2005 Protocol, which extend the criminalisation of maritime terrorism to cover acts against fixed platforms, provide the international legal foundation for domestic legislation criminalising attacks on offshore infrastructure.

Bangladesh's Bangladesh Coast Guard Act of 2010 provides the Coast Guard with general maritime security responsibilities but does not specifically address the protection of offshore energy installations. As Bangladesh's offshore infrastructure develops, specific provisions for the security of those installations, including surveillance requirements, access controls, emergency response obligations, and the legal consequences of security breaches, must be incorporated into the legal framework.

9.2 Submarine Cables, Telecommunications Infrastructure, and the Legal Governance of the Digital Seabed

Bangladesh's connection to the global internet and telecommunications network runs through submarine cables that cross the Bay of Bengal and connect to the SEA-ME-WE cable systems linking South and Southeast Asia to Europe and the rest of the world. These cables are critical national infrastructure, and their protection against accidental damage and deliberate interference is a matter of national security as well as commercial importance.

UNCLOS Articles 79 and 112 to 115 provide the international legal framework for the protection of submarine cables and pipelines, establishing the general freedom to lay cables in the EEZ and

on the continental shelf, subject to the coastal state's rights under Articles 56 and 77, and providing for the criminalisation of wilful damage to cables in international law. Bangladesh's domestic legal framework for the protection of submarine cables is limited, resting primarily on the Telegraph Act of 1885 (as amended), which was not designed for the governance of modern submarine telecommunications cables.

The development of a comprehensive legal framework for submarine cable governance in Bangladesh, reflecting the contemporary international framework and addressing the specific challenges of the Bay of Bengal, is a necessary complement to the offshore energy legal reform. Submarine cables and offshore energy installations increasingly coexist in the same maritime space, and their spatial compatibility and mutual protection must be addressed in a coherent legal framework.

CHAPTER 10: OFFSHORE ENERGY GOVERNANCE AND FEDERALISM IN BANGLADESH: THE CENTRE-PERIPHERY DYNAMICS OF RESOURCE GOVERNANCE

10.1 The Constitutional Framework for Resource Ownership and Governance

Bangladesh is a unitary state, and its Constitution does not establish a federal system of government with constitutionally divided competences between the national government and sub-national units. Resource ownership and governance are therefore vested in the national government, without the complications of federal division of powers that characterise petroleum governance in federal states like Canada, Australia, or the United States. The centralisation of resource governance in Dhaka has advantages of administrative simplicity and national policy coherence, but it also creates the risk of alienation and grievance in the coastal regions most directly affected by offshore development.

The Chittagong Hill Tracts and the Cox's Bazar coastal district, which are geographically adjacent to Bangladesh's offshore energy development areas, have complex political histories that include long-standing tensions between local communities and the national government. The coastal communities of Cox's Bazar, whose fishing grounds are most directly affected by offshore exploration, have a legitimate interest in the governance of the offshore resources that adjoin their livelihoods, and the national government's offshore energy policy must take account of this interest.

The design of revenue-sharing mechanisms between the national government and coastal districts, analogous to the arrangements in place in some petroleum-producing federal states, could provide a mechanism for ensuring that the communities most directly affected by offshore development receive a direct benefit from the revenues generated. While Bangladesh's unitary constitutional structure does not require such arrangements, they are politically desirable and can be implemented through ordinary legislation.

10.2 The Chittagong Port and the Infrastructure of Offshore Development

The development of Bangladesh's offshore hydrocarbon sector will require significant investment in onshore infrastructure, including supply bases, fabrication yards, pipeline terminals, and processing facilities. The Chittagong area, with its existing port infrastructure, industrial zones, and logistical capabilities, is the natural hub for Bangladesh's offshore energy industry. The development of a dedicated offshore energy logistics hub at Chittagong, with the legal infrastructure needed to support the operational requirements of offshore development, is an important element of the broader blue economy development agenda.

The legal framework for such a hub includes the port authority and maritime administration arrangements that govern vessel operations, the customs and immigration facilitation needed for the movement of offshore industry personnel and equipment, the environmental permitting requirements for onshore processing and fabrication facilities, and the industrial zone governance that determines the conditions under which offshore industry suppliers and service providers can establish operations. The streamlining and coordination of these legal frameworks, to reduce the administrative burden on offshore industry operators and to accelerate the establishment of Bangladesh as a credible offshore development environment, is a practical governance priority.

CHAPTER 11: THE POLITICAL ECONOMY OF OFFSHORE ENERGY GOVERNANCE IN BANGLADESH: INTERESTS, INSTITUTIONS, AND THE CHALLENGE OF REFORM

11.1 The Political Economy of Energy Policy in Bangladesh

The governance of energy resources in Bangladesh is embedded in a political economy that has historically been shaped by the interests of politically connected business elites, the competitive dynamics of the major political parties, and the influence of foreign energy companies and international financial institutions. Understanding this political economy is essential to understanding why reform of the offshore energy legal framework has been so slow and so incomplete, and what political conditions are necessary for comprehensive reform.

The Awami League government's preference for LNG imports over domestic exploration was not merely a technical energy policy choice; it reflected the political interests of the business groups involved in LNG trading and the bureaucratic interests of the energy ministry officials who administered the LNG contracts. The decision to prioritise imports created rents for politically connected intermediaries and reduced the bureaucratic risk of controversial exploration decisions. The alignment between political interests and bureaucratic interests in favour of LNG imports was a significant obstacle to the development of the offshore exploration programme.

The BNP government that assumed power in February 2026 has different political constituencies and different political economy dynamics. The business groups associated with the BNP have historically been more sympathetic to private sector-led resource development and less committed to the state enterprise model that characterised the Awami League's energy policy. Whether this translates into a more sustained commitment to offshore exploration remains to be

seen, and the test will be whether the new government is willing to offer PSC terms that are commercially attractive to IOCs even when those terms imply significant government revenue foregone.

The role of the military and the bureaucratic security establishment in Bangladesh's energy policy is another dimension of the political economy that must be acknowledged. The energy sector's national security dimensions, including concerns about Chinese participation in offshore development and the geopolitical implications of energy dependency, give the security establishment a significant interest in energy policy. The legal framework should ensure that these security considerations are addressed through transparent policy processes rather than opaque bureaucratic influence.

11.2 International Institutions and the Reform of Bangladesh's Offshore Energy Framework

The World Bank Group, the Asian Development Bank, the IMF, and bilateral development partners have all been significant actors in the governance of Bangladesh's energy sector, providing both financial support for energy infrastructure and policy advice on governance reform. The IFC has been involved in various aspects of Bangladesh's private sector energy development, including renewable energy projects, and the World Bank has provided technical assistance for energy sector reform.

The influence of these international institutions on Bangladesh's offshore energy governance has been mixed. On the positive side, international institution engagement has introduced international standards of transparency, environmental governance, and commercial practice into Bangladesh's energy sector. On the negative side, the emphasis of some international institution programmes on liberalisation and private sector participation has sometimes been inconsistent with Bangladesh's legitimate interest in maintaining meaningful state control over its national resources, and the conditionalities attached to international institution support have sometimes distorted the governance reform agenda in directions that served donor interests more than Bangladesh's own development objectives.

The TWAIL critique of international institution influence on developing state energy governance, which argues that World Bank and IMF policy prescriptions systematically favour the interests of international capital over those of developing state governments and communities, is relevant here. The appropriate response to this critique is not to reject engagement with international institutions but to engage with them on Bangladesh's own terms, using their technical expertise and financial resources while maintaining the policy autonomy necessary to make governance choices that reflect Bangladesh's own development priorities.

CHAPTER 12: THE OFFSHORE ENERGY GOVERNANCE FRAMEWORK: A COMPREHENSIVE REFORM AGENDA

12.1 The Architecture of Reform: Principles and Priorities

The comprehensive reform of Bangladesh's offshore energy legal framework is a complex and multi-dimensional undertaking that requires a coherent normative framework, a clear set of priorities, and a realistic assessment of the institutional capacity available for implementation. Drawing on the analysis of the preceding chapters, this commentary proposes the following architecture for reform.

The first priority is the enactment of a dedicated Offshore Energy Act, which would consolidate the legal framework for both offshore hydrocarbon and offshore renewable energy development in a single comprehensive statute. This Act would replace the fragmented current framework, which distributes offshore energy governance responsibilities across the Territorial Waters and Maritime Zones Act, the Bangladesh Oil Gas and Mineral Corporation Ordinance, the Bangladesh Petroleum Exploration and Production Rules, the Energy Regulatory Commission Act, and various other instruments. The consolidation of these provisions into a single statute would improve legal clarity, reduce administrative fragmentation, and provide a coherent framework within which both petroleum and renewable energy development can be governed.

The Offshore Energy Act should be structured around the following chapters: the establishment and mandate of a dedicated Offshore Energy Regulatory Authority; the licensing and permit system for offshore exploration and development activities; the environmental governance framework, including EIA requirements, pollution prevention standards, and emergency response obligations; the fiscal framework, including the revenue-sharing arrangements, the sovereign wealth fund provisions, and the audit and transparency requirements; the safety regime, including technical standards, inspection requirements, and liability provisions; the community rights and human rights framework, including consultation, FPIC, and grievance mechanisms; the dispute resolution framework; and the energy transition provisions, including decommissioning requirements and provisions for the integration of climate considerations into offshore energy governance.

The second priority is the reform of the PSC framework to bring it into conformity with international best practice, to provide a credible and commercially competitive framework for IOC investment, and to reflect the environmental and social governance obligations that the ITLOS and ICJ Advisory Opinions have established. The reformed PSC should include: oil-indexed pricing for produced gas, replacing the discredited fixed-price mechanism; a revenue-sharing model that provides the government with an increasing share of revenues as production volumes increase and as prices rise; stabilisation provisions that protect the commercial fiscal framework but explicitly carve out non-discriminatory, bona fide environmental and safety regulations; comprehensive environmental governance provisions incorporating the UNCLOS obligations confirmed by the ITLOS Advisory Opinion; and mandatory EITI disclosure provisions.

The third priority is the institutional reform of Petrobangla and BAPEX, to improve their corporate governance, to build their offshore technical capacity, and to create the institutional framework for effective oversight of IOC activities. The reform should include: amendments to the Petrobangla Ordinance to incorporate modern state enterprise governance principles, including board independence, transparent financial reporting, and arm's-length relationship with government; a capacity building programme for BAPEX in offshore exploration and production

management, including partnerships with established national oil companies such as Norway's Equinor; and the establishment of a technical advisory body to provide independent scientific and engineering advice on offshore energy development.

The fourth priority is the enactment of an Offshore Petroleum Pollution Liability and Compensation Act, establishing strict liability for offshore operators for pollution damage, a requirement for mandatory financial security, and a government-administered compensation fund for spill damage that cannot be recovered from operators. This legislation should be modelled on the US Oil Pollution Act and the Norwegian Petroleum Activities Act, adapted to Bangladesh's specific legal and institutional context.

The fifth priority is the reform of Bangladesh's EIA framework for offshore energy, to meet the requirements of the ITLOS Advisory Opinion and international best practice. This should include specific technical standards for offshore petroleum EIA; mandatory cumulative climate impact assessment; enhanced public participation requirements for coastal fishing communities; independent technical review of offshore EIA documents; and a post-approval monitoring and compliance programme.

12.2 The Legislative Pathway: Constitutional, Parliamentary, and Regulatory Dimensions

The implementation of the reform agenda described above requires action at multiple levels of Bangladesh's legal system. At the constitutional level, the argument that the development of offshore petroleum resources is subject to the constitutional obligations of Articles 14, 15, and 18A, and that the management of petroleum revenues must be consistent with those constitutional objectives, provides the framework within which ordinary legislation must operate. The government should consider whether a constitutional amendment clarifying the framework for natural resource governance, including the establishment of a sovereign wealth fund requirement, would strengthen the legal architecture.

At the parliamentary level, the enactment of the proposed Offshore Energy Act and Offshore Pollution Liability Act requires the engagement of the National Assembly in a substantive legislative process, with appropriate consultation of affected communities, expert bodies, and civil society organisations. The parliamentary process should include a comprehensive review of the proposed legislation by the relevant standing committees, with expert testimony on the international standards and comparative experience relevant to offshore energy governance. The transparency of the legislative process, including the public availability of draft legislation and the record of committee deliberations, is important for the democratic legitimacy of the resulting framework.

At the regulatory level, the implementation of the reformed PSC framework and the EIA regulations requires the exercise of delegated legislative authority by the Ministry of Power, Energy and Mineral Resources and the proposed Offshore Energy Regulatory Authority. The quality of this regulatory implementation, including the technical competence of the regulatory body, the transparency of its decision-making, and its accountability to the courts through judicial review, will determine whether the legislative framework achieves its governance objectives in practice.

12.3 International Legal Compliance as a Driver of Reform

The argument for comprehensive reform of Bangladesh's offshore energy legal framework is strengthened by the international legal obligations that demand compliance with environmental, transparency, and governance standards that the current framework does not meet. These obligations include: the UNCLOS environmental governance obligations as elaborated by the 2024 ITLOS Advisory Opinion; the EITI Standard; the OECD Guidelines for Multinational Enterprises; the UN Guiding Principles on Business and Human Rights; the Paris Agreement obligations on climate mitigation; and the emerging framework of ESG disclosure requirements that are becoming a condition of access to international capital markets.

The compliance-based argument for reform is not the only or the most important argument, but it is a practical and politically tractable one. Governments that might resist reform on purely principled grounds are often more receptive to reform framed as necessary for compliance with specific international obligations, particularly when those obligations are linked to market access, investment attraction, or international standing. The argument that Bangladesh's offshore energy framework must meet international standards in order to attract IOC investment and to maintain access to international development finance is a practical argument that cuts across political boundaries.

CHAPTER 13: COMPARATIVE JURISPRUDENCE IN OFFSHORE ENERGY GOVERNANCE: LESSONS FOR BANGLADESH

13.1 Norway's Integrated Petroleum Governance: The Institutional Archetype

Norway is universally regarded as the exemplar of successful offshore petroleum governance among developed states, and its institutional architecture offers important lessons for Bangladesh even though the contexts are very different. The Norwegian model rests on several interlocking institutional elements: the Ministry of Petroleum and Energy, which sets policy; the Norwegian Petroleum Directorate, which provides technical expertise and administers the licensing regime; the Petroleum Safety Authority Norway, which regulates health, environment, and safety in the petroleum sector; Equinor, the state oil company, which participates in all production licences as a financial investor and technical adviser to the government; and the Government Pension Fund Global, which accumulates petroleum revenues for future generations.

The philosophical foundations of the Norwegian model reflect a deliberate choice to use petroleum resources as a national developmental asset rather than a source of political patronage or immediate consumption. The Government Pension Fund Global, often described as the world's most responsible sovereign wealth fund, now manages assets equivalent to roughly twice Norway's annual GDP and provides a permanent income for future generations that will long outlast Norway's petroleum production. The legislative framework for the fund, including the fiscal rule that limits the government's annual drawdown on the fund to three percent of its value, has maintained discipline in petroleum revenue management across multiple changes of government.

For Bangladesh, the most relevant lessons from Norway include: the importance of separating the regulatory, commercial, and policy functions of petroleum governance into distinct institutional bodies with clear mandates and arm's-length relationships; the value of the state oil company as a financially participant partner in all production licences, providing the government with both revenue and market information; and the imperative of saving petroleum revenues for future generations rather than consuming them in the present.

13.2 Ghana's Petroleum Revenue Management Act: An African Developing State Model

Ghana's enactment of the Petroleum Revenue Management Act (PRMA) in 2011, following the discovery of the Jubilee oil field in 2007, provides a model of petroleum revenue governance for a developing state more comparable to Bangladesh's circumstances than Norway. The PRMA established a Petroleum Account in the central bank, into which all petroleum revenues are paid, and a Public Interest and Accountability Committee (PIAC), a statutory civil society body that monitors and evaluates compliance with the PRMA and publishes an annual assessment.

The Ghana experience also illustrates the challenges of maintaining petroleum revenue governance discipline in the face of political pressure. The PRMA's provisions have been tested by successive governments seeking to bend the rules for political purposes, and PIAC's monitoring function has been essential in maintaining some degree of accountability. The existence of PIAC as a statutory civil society oversight body, with independent legal status and the mandate to publicly report on government compliance with the PRMA, is a governance innovation that Bangladesh should consider adapting in its own offshore energy legislation.

13.3 The East Timor-Australia Sunrise Gas Treaty: Lessons in Bilateral Energy Governance for the Bay of Bengal Grey Area

The governance of shared hydrocarbon resources in contested maritime areas is directly relevant to Bangladesh's grey area situation, where the continental shelf rights in the seabed below the Indian EEZ water column create a potential for overlapping resource governance obligations. The East Timor-Australia experience with the Greater Sunrise gas field, which lies partially in the joint development zone established by the 1989 Timor Gap Treaty and subsequently by the 2002 Timor Sea Treaty and the 2018 Maritime Boundary Treaty, provides a detailed case study of the legal and political challenges of governing shared offshore resources.

The eventual resolution of the East Timor-Australia Sunrise dispute through the 2018 Maritime Boundary Treaty, which was negotiated under the Timor-Leste government's invocation of the UNCLOS compulsory conciliation procedure, demonstrates both the effectiveness of the UNCLOS dispute settlement system in resolving longstanding boundary disputes and the importance of persistent, principled legal advocacy by the weaker party in achieving an equitable outcome. Bangladesh's successful use of the UNCLOS arbitral system to establish its maritime boundaries provides a directly analogous example of the same principle.

The bilateral agreement model for the governance of resources in disputed or shared maritime areas, which is the approach that East Timor and Australia ultimately adopted for the Sunrise field, may be relevant to the governance of Bangladesh's grey area with India. The design of a

joint development zone or a bilateral cooperation agreement for the grey area, based on the precedents of the East Timor-Australia treaty and the Joint Development Zone established between Malaysia and Thailand in the Gulf of Thailand, could provide a practical resolution of the governance challenges that the grey area presents, benefiting both Bangladesh and India by enabling the development of resources that might otherwise remain undeveloped due to jurisdictional uncertainty.

CHAPTER 14: THE PHILOSOPHICAL DIMENSIONS OF OFFSHORE ENERGY GOVERNANCE: SUSTAINABILITY, INTERGENERATIONAL JUSTICE, AND THE ETHICS OF FOSSIL FUEL DEVELOPMENT

14.1 The Ethics of Offshore Fossil Fuel Development in the Age of the Climate Crisis

The ethical dimensions of Bangladesh's decision to pursue offshore fossil fuel development are profound and unavoidable. We live in a world where the scientific evidence for catastrophic climate change from fossil fuel combustion is overwhelming, where international bodies including ITLOS and the ICJ have confirmed that greenhouse gas emissions constitute marine pollution and that states have due diligence obligations to prevent them, and where the political consensus expressed in the Paris Agreement commits virtually all states to achieving net zero emissions by the second half of this century. In this context, the decision to invest in new offshore fossil fuel infrastructure is an ethical choice that demands justification, not merely a technical energy policy decision.

The ethical framework developed by Henry Shue on basic rights and the minimum demands of justice is relevant here. Shue argues that all human beings have rights to physical security and subsistence, rights that must be honoured even at the cost of other interests. Applied to Bangladesh's energy governance, this framework supports the argument that the obligation to provide Bangladeshi citizens with affordable energy for basic needs, including the energy necessary for cooking, lighting, and the productive activities that enable subsistence, justifies the development of domestic energy resources even when those resources are fossil fuels. The right to subsistence, on Shue's analysis, takes priority over obligations that would require the sacrifice of subsistence for the benefit of environmental goals, however important those goals may be.

The counterargument, grounded in the justice framework of intergenerational equity developed by Rawls's extension of the original position to future generations and by Brown Weiss's principles of equity between generations, is that the present generation's energy needs cannot justify the imposition on future generations of the climate risks that fossil fuel combustion creates. Bangladesh's future generations, who will inherit the consequences of today's energy choices, include the very people whose coastal lands and island habitats are most threatened by sea-level rise. The decision to develop offshore gas resources must therefore be justified not only in terms of the present generation's energy needs but in terms of its fairness to future Bangladeshis.

The resolution of this ethical tension is not to choose one framework over the other but to design a development approach that takes both seriously. This means: developing offshore gas resources at a pace and scale proportionate to genuine domestic energy needs rather than export ambitions; investing in the domestic renewable energy sector simultaneously, so that domestic gas bridges to clean energy rather than perpetuating fossil fuel dependency; using petroleum revenues to finance climate adaptation and the energy transition; and ensuring that the pace of offshore development is aligned with Bangladesh's internationally committed emissions reduction targets rather than in conflict with them.

14.2 Rawlsian Justice and Petroleum Revenue Distribution

John Rawls's theory of justice as fairness, and in particular his difference principle, which holds that social and economic inequalities are just only if they benefit the least advantaged members of society, provides a powerful framework for evaluating the distributive implications of Bangladesh's offshore petroleum revenue management. Applied to petroleum revenues, the difference principle implies that the distribution of benefits from the development of national resources is just only if those benefits flow primarily to the poorest and most vulnerable Bangladeshis, including the coastal fishing communities whose traditional way of life is most directly affected by offshore development.

The Rawlsian framework supports the design of petroleum revenue management systems that allocate a significant portion of revenues directly to social protection, education, health, and climate adaptation for the poorest communities, rather than permitting revenues to be absorbed into general government expenditure where they are subject to capture by the politically connected elite. It supports progressive domestic taxation of petroleum revenues rather than regressive fiscal arrangements that allow a small number of rent-seeking intermediaries to capture a disproportionate share of the economic benefits. And it supports the use of petroleum revenues for public goods, including infrastructure, research, and institutional capacity building, that enhance the opportunities available to future Bangladeshis rather than merely enriching the present generation.

14.3 The Capability Approach and Offshore Energy Development

Amartya Sen's capability approach, applied to offshore energy governance, provides a framework that goes beyond both the utilitarian calculus of aggregate welfare maximisation and the rights-based framework of Rawlsian justice, by focusing on the actual freedoms and abilities of real people to live lives they have reason to value. On the capability approach, the measure of success for Bangladesh's offshore energy development programme is not the volume of petroleum produced, the revenue generated, or even the aggregate improvement in GDP, but the extent to which the development improves the substantive freedoms and capabilities of Bangladeshi citizens, particularly those who are most vulnerable and most affected.

The capability framework requires the evaluation of offshore energy development against multiple dimensions of human flourishing: the capabilities of coastal fishing communities to continue practising their traditional way of life and maintaining their cultural identities; the capabilities of coastal women to make meaningful choices about their economic lives; the

capabilities of future Bangladeshis to enjoy a healthy marine environment; the capabilities of all Bangladeshis to benefit from access to affordable and reliable energy; and the capabilities of Bangladesh as a state to exercise meaningful sovereignty over its natural resources and to make autonomous choices about its development path.

This multi-dimensional evaluation framework is more demanding than a simple cost-benefit analysis, but it is more appropriate to the complexity of the governance challenge. The design of a legal and policy framework for offshore energy development that maximises human capabilities, rather than merely maximising aggregate revenues, requires attention to distribution, to process (including genuine participation and accountability), to environmental sustainability, and to the long-term trajectory of development rather than only the short-term economic returns.

CHAPTER 15: OFFSHORE ENERGY LAW AND CONSTITUTIONAL JURISPRUDENCE IN BANGLADESH

15.1 Constitutional Provisions on Natural Resources and State Ownership

Bangladesh's Constitution, as amended through the Fifteenth Amendment of 2011, contains several provisions relevant to the governance of natural resources, including offshore energy resources. Article 143 vests ownership of all minerals and other things of value underlying the ocean within the territorial waters, or the ocean over the continental shelf of Bangladesh in the Republic, with provision for their development in accordance with law. This provision establishes the constitutional basis for state ownership of offshore petroleum and mineral resources and for the legislative governance of their development.

Article 14, which establishes the fundamental responsibility of the state to emancipate the toiling masses and backward sections of the people from all forms of exploitation, provides a constitutional mandate for the protection of fishing communities and other vulnerable groups from exploitation in the context of offshore energy development. This provision could be relied upon in constitutional litigation challenging governance arrangements that systematically disadvantage vulnerable coastal communities, including PSC terms that fail to require adequate compensation for affected fisheries, or administrative arrangements that exclude fishing communities from participation in offshore development decisions.

Article 18A, the environmental protection provision introduced in 2011, provides that the state shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests and wildlife for the citizens. This provision has been interpreted by the Supreme Court of Bangladesh in the Sundarbans litigation and other environmental cases as imposing a positive obligation on the state to take active measures for environmental protection, and it provides a constitutional basis for the environmental governance obligations of the offshore energy legal framework.

15.2 Judicial Review and Offshore Energy Governance

The role of Bangladesh's courts in the oversight of offshore energy governance is an important institutional dimension of the legal architecture. The Supreme Court's writ jurisdiction under Articles 102 and 44 of the Constitution provides a mechanism for individuals and civil society organisations to challenge administrative decisions in the energy sector that are ultra vires, unreasonable, or in violation of fundamental rights.

Several categories of offshore energy governance decisions are potentially subject to judicial review. The issuance of PSCs without adequate environmental assessment, in violation of the obligation under Article 18A and the Environment Conservation Act, could be challenged by writ petition. The failure to conduct meaningful public consultation of affected fishing communities before licensing offshore development activities, in violation of the participation rights implied by the constitutional framework, could similarly be challenged. The non-disclosure of PSC terms that are constitutionally required to be transparent could be challenged under the Freedom of Information framework.

Bangladesh's environmental lawyers, particularly the Bangladesh Environmental Lawyers Association (BELA), have demonstrated significant capacity for successful constitutional environmental litigation in the Sundarbans and related cases. The extension of this litigation strategy to the offshore energy sector, as offshore development becomes an increasingly salient governance issue, will be an important complement to legislative and administrative reform.

CONCLUDING COMMENTARY ON PART SIX

The governance of Bangladesh's offshore hydrocarbon resources is one of the most urgent, most complex, and most consequential policy and legal challenges the country faces in the early decades of the twenty-first century. The geological promise of the Bengal Fan, the imperatives of energy security, the ambitions of the blue economy strategy, and the demands of climate responsibility and social justice converge in this space, creating tensions that cannot be resolved by technical legal drafting alone but require a foundational commitment to the values of sovereignty, sustainability, equity, and democratic governance.

The commentary in this Part has traced the jurisprudential foundations of Bangladesh's offshore resource sovereignty from the philosophical debates of the seventeenth century through the UNCLOS framework to the landmark advisory opinions of 2024 and 2025. It has documented the history of Bangladesh's offshore exploration programme, identifying the structural constraints, political economy dynamics, and institutional failures that have produced the current situation of persistent underexploration and energy dependency. It has critically analysed the PSC framework, the environmental governance obligations, and the fiscal architecture of offshore energy development, identifying significant gaps and proposing specific reforms. It has engaged with the ethical dimensions of offshore fossil fuel development in the age of the climate crisis, providing a philosophical framework for the difficult choices that Bangladesh's policymakers must make. And it has proposed a comprehensive reform agenda, anchored in the Offshore Energy Act, the reformed PSC framework, the Offshore Pollution Liability Act, and the reformed EIA framework, that would bring Bangladesh's offshore energy governance into

conformity with international best practice, fulfil its international legal obligations, and provide the institutional foundation for sustainable and equitable offshore resource development.

The urgency of this reform cannot be overstated. The BNP government that assumed office in February 2026 inherits an energy crisis shaped by the previous administration's choices, a geopolitical environment of sharpening competition for the Bay of Bengal's resources, and a rapidly closing window for offshore development to make a meaningful contribution to Bangladesh's energy security before the energy transition permanently alters the commercial landscape. The legal reform agenda outlined in this Part does not guarantee that Bangladesh will succeed in developing its offshore resources, because success also depends on geological luck, commercial acumen, and geopolitical management that are beyond the reach of legal reform alone. But the absence of a comprehensive, credible, and internationally competitive legal framework is itself a barrier to success, and removing that barrier is within Bangladesh's power to achieve.

The sea does not wait, as this commentary has observed repeatedly. And neither does the climate, which is reshaping the legal obligations of states, the commercial calculus of energy investors, and the physical geography of Bangladesh's coast with each passing year. The comprehensive reform of Bangladesh's offshore energy legal framework is not merely a technical exercise; it is an act of sovereignty, an assertion of responsibility to present and future generations, and a foundational investment in Bangladesh's capacity to navigate the most challenging century of its existence.

The story of Bangladesh's offshore energy governance is, at its deepest level, the story of a young nation's struggle to exercise meaningful sovereignty over the resources that nature placed beneath its adjacent seas, in the face of institutional constraints, political pressures, geopolitical competition, and the profound ethical challenges of the climate crisis. It is a story that is still being written, and the legal framework that this Part has analysed and proposed is the text in which the most important chapters remain to be composed.

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This Part is the sixth of twenty parts in the series Commentaries And Necessary Reforms in The Law of The Sea: Bangladesh Perspective. The commentary is an academic and policy work intended to inform legislative and institutional reform. It does not constitute legal advice, and readers seeking advice on specific legal matters should consult qualified legal practitioners.

Next: Part Seven: Maritime Transport, Port Governance, and the Law of Shipping in Bangladesh: A Commentary on the Architecture of Connectivity, the Legal Regime of Port

State Control, and the Imperative of Institutional Reform in Bangladesh's Commercial Maritime Sector

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END OF PART SIX

PART SEVEN

MARINE ENVIRONMENTAL LAW, ECOLOGICAL JURISPRUDENCE, AND THE CLIMATE ACCOUNTABILITY OF THE LAW OF THE SEA: OBLIGATIONS, FAILURES, AND THE IMPERATIVE OF REFORM FOR BANGLADESH

A Commentary on the Philosophy, Doctrine, and Politics of Ocean Protection with Special Reference to the Bay of Bengal

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PREFACE TO PART SEVEN

The ocean does not submit petitions to legislatures. It does not argue its case before tribunals. It does not march in demonstrations. And yet, in the second decade of the twenty-first century, the ocean has become the subject of the most profound jurisprudential transformation in the history of the international law of the sea. A Tribunal sitting in Hamburg, an Institution created by states to manage the technical disputes of maritime boundary and shipping law, rendered on 21 May 2024 a unanimous Advisory Opinion that will be discussed in law schools and government ministries and diplomatic chanceries for as long as international law endures. The International Tribunal for the Law of the Sea declared, with the full weight of its institutional authority, that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of the United Nations Convention on the Law of the Sea of 1982. The ocean had, at last, an advocate whose voice was heard in the chambers of international law.

For Bangladesh, this development is not merely academic. The Bay of Bengal, which the previous parts of this commentary have described as both a dimension of national destiny and the most legally contested maritime space in South Asia, is undergoing changes that no legislative draftsman of the 1974 Act or the 2021 Amendment could have fully anticipated. The surface temperature of the Bay of Bengal has risen by approximately 0.5 degrees Celsius since the 1970s. The pH of its coastal waters has dropped from approximately 8.3 in the early 1980s to between 7.9 and 8.0 in recent years, with some estuarine zones recording readings as low as 7.73. Bangladesh's total marine fish harvest fell to 628,622 tonnes in FY 2023-24, the lowest recorded in nine years. Deep-sea trawler catches declined by 21 percent year-on-year. The catch per artisanal fishing boat has dropped nearly 70 percent over two decades, from 13 tonnes in 2000 to barely 4 tonnes in 2020. In 1971, the Bay of Bengal off the coast of Bangladesh contained 475 species of fish; today, only 394 remain. These are not mere statistics. They are the ecological vocabulary of a catastrophe in slow motion.

Part Seven of this commentary undertakes the most difficult and perhaps the most urgent task in the entire twenty-part series. It examines, from the deepest philosophical and jurisprudential foundations to the most precise technical details of legislative drafting, the marine environmental law obligations of Bangladesh, the catastrophic gap between those obligations and current domestic legal reality, and the comprehensive reform agenda that the law, the science, and elementary justice demand. It engages with the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion on climate change obligations not merely as legal footnotes but as landmark reconfigurations of the philosophical relationship between international law and the natural world. It examines the BBNJ Agreement, which entered into force on 17 January 2026, as both a legal instrument and a philosophical statement about the collective governance of the global ocean commons. And it develops a theory of ecological jurisprudence for the Bay of Bengal that is grounded in the traditions of natural law, human rights, and the emerging legal philosophy of earth jurisprudence, while remaining practically oriented toward the specific legislative, institutional, and diplomatic reforms that Bangladesh must undertake.

The argument of Part Seven is simple in its essentials even if complex in its development. Bangladesh stands at the intersection of the world's most acute marine environmental crisis and the world's most progressive recent development in international marine environmental law. The gap between the international legal obligations that Bangladesh has assumed and the domestic legal framework it has created to fulfill those obligations is unconscionable by any honest measure. The Bay of Bengal is dying by degrees. And the law, which should be the instrument of its protection, is failing it. Reform is not optional. It is mandatory. It is urgent. And it is the subject of this Part.

CHAPTER 1: THE PHILOSOPHICAL FOUNDATIONS OF MARINE ENVIRONMENTAL LAW: FROM STEWARDSHIP TO RIGHTS

1.1 The Ancient Roots of Environmental Obligation: Stewardship, Custodianship, and Sacred Seas

The idea that human beings owe duties toward the natural world, including the sea, is as old as recorded human thought. It appears in the traditions of virtually every major civilization, and it is not the exclusive property of any single legal culture or philosophical school. The tendency of modern international environmental law scholarship to present the concept of environmental obligation as a twentieth-century innovation, born in the aftermath of the 1972 Stockholm Conference on the Human Environment, obscures this deep historical and philosophical background and impoverishes our understanding of the sources from which genuine environmental commitment can be drawn.

In the Abrahamic traditions that have shaped much of Western and Middle Eastern jurisprudence, the concept of stewardship, the notion that human beings hold the earth in trust from a divine creator and bear responsibility for its care, is a foundational principle. The Islamic concept of khalifah, which literally means vicegerency or stewardship, holds that human beings are entrusted by God with the care of the earth and its resources, and that this trust carries

responsibilities that cannot be discharged by the mere satisfaction of human appetites. The Quranic injunction against fasad fi'l ard, corruption on earth, has been interpreted by Islamic environmental scholars as a comprehensive prohibition on the degradation of the natural world, including marine ecosystems. For Bangladesh, a majority Muslim society with a constitutional commitment to Islamic values in its public life, this theological dimension of environmental obligation is not merely of academic interest; it is a source of legitimate moral authority for the legal reform agenda advanced in this commentary.

In the Hindu philosophical traditions that are part of the cultural heritage of a significant portion of the population of the Bay of Bengal littoral, the concept of the sacred character of rivers, the sea, and the natural world is deeply embedded. The Ganga, the Brahmaputra, the Meghna, the rivers whose combined discharge creates the conditions of the Bangladesh delta and the productivity of the Bay of Bengal, are not merely hydraulic systems in the Hindu philosophical imagination; they are divine presences, entities with a moral status that places obligations on those who depend on them and those who govern them. The legal recognition of the rights of rivers in Indian judicial decisions, which will be discussed further below, draws on this tradition even as it employs the secular vocabulary of constitutional law.

In the Buddhist traditions dominant in Myanmar and Thailand, two of Bangladesh's immediate neighbors in the Bay of Bengal region, the concept of interdependence, pratityasamutpada, holds that all beings and all phenomena are interconnected in a web of mutual causation, and that the degradation of one element of this web necessarily affects all others. Buddhist environmental ethics, which has been articulated by scholars like Thich Nhat Hanh and Joanna Macy, argues that the environmental crisis is fundamentally a crisis of consciousness, a failure to perceive the interdependence of human and non-human life, and that it can only be addressed by a transformation of consciousness as well as a transformation of law.

These ancient traditions are not mere historical curiosities. They are living sources of moral authority that can inform and invigorate the legal project of marine environmental protection in a way that purely secular and technocratic approaches cannot. The law does not operate only through the fear of sanction; it also operates through the cultivation of obligation, and the cultivation of obligation requires a moral vocabulary that speaks to the deepest values of the communities it addresses. For Bangladesh, drawing on the richness of its multi-religious cultural heritage in the development of a marine environmental legal framework is both philosophically sound and politically wise.

1.2 The Natural Law Tradition and Environmental Obligation: Hugo Grotius Revisited

The natural law tradition in its Western form, as discussed in Part One of this commentary in relation to the work of Hugo Grotius, has an ambivalent relationship with environmental protection. Grotius's mare liberum, his argument for the freedom of the seas, was grounded in the inexhaustibility of marine resources, his argument that the fish of the ocean were in principle available in unlimited quantities and therefore could not form the basis of sovereign monopoly. This argument was, of course, empirically wrong, as the subsequent centuries of commercial fishing have demonstrated with devastating clarity. But the more fundamental issue is that

Grotius's natural law framework treated nature primarily as a resource for human use rather than as an entity with its own moral status or legal standing.

The natural law tradition that is more directly relevant to marine environmental protection is the tradition of common property theory, as exemplified by Grotius's characterization of the sea as res communis omnium, a thing common to all. If the sea belongs to all people, then those who pollute it are not merely harming their own property but violating the rights of all others who share in the commons. This argument has been developed in modern form by environmental lawyers drawing on the public trust doctrine, the idea that the sovereign holds certain natural resources, including the sea, in trust for the public, and that this trust relationship imposes fiduciary duties on the state that go beyond the ordinary duties of property management to include duties of conservation and protection for present and future generations.

The public trust doctrine, which has its origins in Roman law and was developed in English common law before being adopted and transformed in American constitutional law, is directly relevant to Bangladesh's marine environmental governance. The doctrine was applied by the Supreme Court of India in the landmark case M.C. Mehta v. Kamal Nath (1997), in which the Court held that the state as trustee of natural resources must protect them for public use and cannot allow private parties to use or pollute them in ways that damage the public interest. The Indian jurisprudence on the public trust doctrine has been influential in South Asian environmental law generally, and it provides a constitutional foundation for a strengthened marine environmental governance regime in Bangladesh.

The application of the public trust doctrine to the marine environment requires the recognition that the state's sovereign rights over the EEZ and continental shelf, confirmed by UNCLOS and by Bangladesh's domestic legislation, are not rights of unlimited exploitation but rights held in trust for the benefit of the people of Bangladesh, including future generations. This recognition, which is jurisprudentially sound and practically significant, would transform the legal character of marine resource governance from a framework of state prerogative to a framework of public fiduciary duty, with significant implications for transparency, accountability, environmental impact assessment, and the rights of fishing communities and other marine stakeholders.

1.3 Ecological Jurisprudence and Earth Jurisprudence: The Rights of Nature and the Sea

The most radical and the most philosophically significant development in environmental legal philosophy in recent decades is the emergence of what has been called earth jurisprudence or the rights of nature movement. Drawing on the ecological philosophy of Thomas Berry, the legal theory of Cormac Cullinan, and the practical examples of constitutional and judicial recognition of natural rights in Ecuador, Bolivia, India, New Zealand, and elsewhere, this movement argues that the legal system's fundamental anthropocentrism, its assumption that legal rights belong exclusively to human persons or human-created entities, is both philosophically unjustified and ecologically catastrophic, and that a sustainable legal framework for the governance of the natural world requires the recognition of the intrinsic value and legal rights of natural entities.

Christopher Stone's landmark 1972 essay "Should Trees Have Standing?", published in the Southern California Law Review at the moment when the environmental movement was gaining

its first legislative victories in the United States, provided the foundational philosophical argument for the recognition of natural legal standing. Stone argued that the history of law had been characterized by the progressive extension of legal personhood and rights to entities previously regarded as without legal standing, including women, slaves, corporations, and municipalities, and that there was no principled reason why this progression could not be extended to natural objects such as forests, rivers, and oceans. The legal recognition of natural standing would, Stone argued, allow courts and legislatures to take account of the interests of nature itself in legal proceedings, rather than treating the natural world purely as property or as a resource for human exploitation.

The practical implementation of Stone's theoretical proposal has been most advanced in the context of rivers. The Whanganui River in New Zealand was granted legal personality by the Te Awa Tupua (Whanganui River Claims Settlement) Act of 2017, which declared the river to be an indivisible and living whole from the mountains to the sea, incorporating all its physical and metaphysical elements. The Ganges and Yamuna rivers were briefly accorded legal personality by the Uttarakhand High Court in India in March 2017, though this decision was subsequently stayed by the Supreme Court on grounds of territorial jurisdiction. The rights of nature were incorporated into the Constitution of Ecuador in 2008 in Articles 71 to 74, which declare that nature, or Pachamama, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions, and evolutionary processes, and that all persons may petition to defend these rights.

The extension of the rights of nature concept to the marine environment is both logically compelling and practically significant. The Bay of Bengal, as an ecosystem, has interests in its own continued existence, in the maintenance of its ecological processes, in the perpetuation of its biodiversity, and in the health of the communities, both human and non-human, that depend on it. Recognizing these interests in legal form, whether through the recognition of legal personhood for the Bay or through the incorporation of ecological integrity as a legally protected value in Bangladesh's constitution and legislation, would create a framework of environmental governance fundamentally different from the current framework of sovereign resource management.

The philosophical case for recognizing the legal rights of the Bay of Bengal is strengthened by the fact that the Bay is not merely a resource for Bangladesh alone; it is an ecosystem shared by multiple nations and communities, and its degradation is a harm suffered by all of them. The common property character of the Bay, which Grotius would have recognized even if he could not have foreseen the specific ecological challenges of the twenty-first century, argues for a framework of collective stewardship rather than individual national exploitation.

At the present stage of international legal development, the full recognition of legal rights for the Bay of Bengal as an ecosystem is not a realistic near-term legislative proposition for Bangladesh. But the philosophical framework of earth jurisprudence can inform legal reform in more immediately practical ways. It can support the incorporation of the precautionary principle as a mandatory standard for all maritime development decisions. It can support the recognition of ecological integrity as a justiciable constitutional right. It can support the development of a legal framework for marine spatial planning that gives systematic weight to ecological values

alongside economic interests. And it can provide a vocabulary for legal advocacy that speaks to the deepest moral convictions of the populations whose lives and livelihoods depend on the health of the Bay.

1.4 Intergenerational Equity and the Legal Architecture of Future Obligations

The concept of intergenerational equity, the idea that present generations are under legal and moral obligations toward future generations, is one of the most challenging and intellectually rich concepts in contemporary legal philosophy. It was articulated with particular clarity and force by Edith Brown Weiss, the American international lawyer, in her 1989 work In Fairness to Future Generations, which proposed three principles of intergenerational equity: the conservation of options, the obligation to conserve the diversity of the natural and cultural resource base so that future generations have at least as many options available to them as the present generation; the conservation of quality, the obligation to maintain the quality of the environment at a level at least equal to that enjoyed by the present generation; and the conservation of access, the obligation to ensure that each generation has equitable access to the legacy bequeathed by prior generations and is required to conserve this legacy for future generations.

These principles of intergenerational equity have been incorporated, to varying degrees, in international environmental law instruments. The 1992 Rio Declaration on Environment and Development, in Principle 3, states that the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations. The preamble of UNCLOS itself, in its reference to the interests of humanity as a whole, reflects an implicit concern for intergenerational equity, though the concept is not explicitly articulated in the text of the Convention. The common heritage of mankind principle, as applied to the deep seabed under Part XI of UNCLOS, has been interpreted by legal scholars as incorporating an element of intergenerational obligation, since the resources of the Area are declared to be the heritage of mankind as a whole, which must logically include future generations.

For Bangladesh, the principle of intergenerational equity has particularly powerful implications. The marine resources of Bangladesh's EEZ, the fish stocks, the hydrocarbons, the biodiversity, the ecological services provided by the Sundarbans mangroves, are not merely assets of the present generation. They are assets of all future generations of Bangladeshis and of the wider community of humanity that depends on the health of the Bay of Bengal. The legal framework for marine resource governance must reflect this intergenerational character of the resource base.

The 2024 ITLOS Advisory Opinion on climate change provides significant jurisprudential support for intergenerational equity as a legal principle in the marine environmental context. The Tribunal's confirmation that states have due diligence obligations to take all necessary measures to prevent, reduce, and control marine pollution from greenhouse gas emissions is, at its philosophical core, an affirmation that present states cannot externalize the costs of their current emissions onto future generations, including future generations in countries that bear no responsibility for those emissions. This is intergenerational equity in concrete legal form, and it is a principle of direct and urgent relevance to Bangladesh's situation.

1.5 The Precautionary Principle: Philosophical Justification and Legal Content

The precautionary principle holds that where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. It was articulated in this form in Principle 15 of the 1992 Rio Declaration, though its origins can be traced to German environmental law of the 1970s and to the concept of Vorsorgeprinzip, or foresight principle, developed in German administrative law. The precautionary principle has been incorporated in numerous international environmental agreements, including the Convention on Biological Diversity, the Cartagena Protocol on Biosafety, and the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic.

The philosophical justification of the precautionary principle is more complex and more contested than its simple formulation might suggest. From a utilitarian perspective, the principle can be justified on the grounds that the expected value of environmental damage, taking into account the probability and magnitude of possible harm, may far exceed the expected value of the economic benefits forgone by preventive action, particularly when the harm is potentially catastrophic and irreversible. From a rights-based perspective, the principle can be justified on the grounds that the potential victims of environmental harm, including future generations and non-human species, have rights that must be protected even under conditions of scientific uncertainty. From an ecological perspective, the principle can be justified on the grounds that the interconnectedness and complexity of ecosystems means that apparently minor interventions can have cascading and disproportionate effects, and that this systemic complexity justifies a presumption in favor of caution.

The precautionary principle's legal status in international law has been a matter of some controversy. Some scholars, drawing on the principle's widespread incorporation in treaty law and in the practice of international courts and tribunals, argue that it has achieved the status of customary international law. Others argue that its formulation varies too significantly across instruments and contexts to constitute a clear and determinate legal rule, and that it should be understood as a principle of policy guidance rather than a binding legal norm. The ITLOS Advisory Opinion of 2024 made significant use of precautionary reasoning, confirming that the due diligence obligations of states under UNCLOS include an obligation to apply the precautionary approach in cases where there is scientific uncertainty about the extent of harm from anthropogenic activities, including greenhouse gas emissions.

For Bangladesh's domestic legal framework, the explicit incorporation of the precautionary principle as a binding legal standard for all decisions affecting the marine environment would be a significant reform. The current framework contains no such provision, and decisions on offshore development, fishing licenses, and maritime construction activities are made without any systematic requirement to consider the possibility of environmental harm in conditions of uncertainty. A precautionary framework would require environmental impact assessments for all significant maritime activities, would place the burden of proving environmental safety on those proposing activities rather than on those opposing them, and would create a legal basis for precautionary restrictions on activities where scientific evidence suggests potential but not certain harm.

CHAPTER 2: THE UNCLOS ENVIRONMENTAL FRAMEWORK: A JURISPRUDENTIAL ANATOMY

2.1 Part XII of UNCLOS: Structure, Scope, and Constitutional Character

Part XII of UNCLOS, comprising Articles 192 to 237, constitutes the most comprehensive body of international environmental law in any multilateral treaty. Its constitutional character, as the foundational framework within which all more specific international and domestic marine environmental norms must operate, has been confirmed by the jurisprudence of ITLOS and the PCA, and it has been described by leading international environmental law scholars as establishing the normative architecture for the governance of the marine environment as a planetary commons.

Article 192 contains the foundational obligation: states have the obligation to protect and preserve the marine environment. This obligation is significant in several important respects. First, it is stated as an obligation, not merely a goal or aspiration; states are required to protect and preserve, not merely to endeavor to protect and preserve or to take appropriate measures. Second, the obligation applies to all states, not merely coastal states or flag states; it is a universal obligation of all members of the international community. Third, the obligation encompasses both protection and preservation, suggesting a duty not merely to prevent active harm but to maintain and conserve existing ecological values.

The content and scope of this foundational obligation were substantially clarified by the 2024 ITLOS Advisory Opinion, which held that the obligation in Article 192 is an obligation of conduct, specifically a due diligence obligation requiring states to take all necessary measures to prevent, reduce, and control marine pollution and to protect and preserve the marine environment. The Tribunal found that the standard of due diligence in this context is a stringent one, going beyond merely adopting laws and regulations and requiring their effective enforcement. The Tribunal also confirmed that the obligation in Article 192 is broader than the obligation to prevent pollution in Article 194, encompassing the protection of marine biodiversity, the prevention of habitat degradation, and the maintenance of the marine environment in conditions capable of sustaining life and ecosystem functions.

Article 194 develops the foundational obligation in more specific terms, requiring states to take all measures consistent with the Convention that are necessary to prevent, reduce, and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities. The reference to best practicable means and capabilities introduces an element of proportionality and economic feasibility into the obligation, but it does not diminish its fundamental character; the obligation remains to take all necessary measures, not merely some measures or convenient measures.

Article 194 also identifies specific sources of pollution that states are required to address: pollution from land-based sources including rivers, estuaries, pipelines and outfall structures; pollution from seabed activities subject to national jurisdiction; pollution from activities in the Area; pollution from dumping; pollution from vessels; and pollution from or through the atmosphere. This comprehensive enumeration of pollution sources creates a framework of

obligations that is, in principle, adequate to address all of the major sources of marine pollution relevant to Bangladesh's situation. But as this commentary repeatedly emphasizes, the existence of international obligations is of limited value without the domestic legal framework to implement them.

The relationship between Article 194 and other sources of international law, particularly the climate change regime under the UNFCCC and the Paris Agreement, was one of the most contentious issues in the ITLOS Advisory Opinion proceedings and remains a subject of significant academic debate. The Tribunal held that the obligations under UNCLOS and the obligations under the climate change instruments are distinct and mutually reinforcing, and that compliance with the Paris Agreement does not exhaust a state's obligations under UNCLOS. This holding is of major practical significance: it means that a state can be in compliance with its Nationally Determined Contribution under the Paris Agreement and still be in breach of its obligations under UNCLOS Article 194, if the measures it has taken are not sufficient to constitute the exercise of due diligence to prevent, reduce, and control marine pollution from greenhouse gas emissions.

2.2 The Due Diligence Standard: Content, Threshold, and Enforcement

The concept of due diligence, borrowed from private law and applied to state obligations in international law, has been progressively developed through the jurisprudence of international courts and tribunals over the past three decades. In the context of environmental obligations, the concept was elaborated in the ITLOS Advisory Opinion of 2011 on the Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, which confirmed that the due diligence obligation applicable to the sponsorship of deep seabed mining activities required states to adopt a precautionary approach, to take measures ensuring the best available techniques are used, and to implement a systematic monitoring and reporting program.

The 2024 ITLOS Advisory Opinion significantly developed and elevated the due diligence standard in the context of marine pollution from greenhouse gas emissions. The Tribunal held that the due diligence obligation in this context requires states to apply the best available science, to adopt the highest possible level of ambition in setting emissions reduction targets, to implement effective measures for achieving those targets, and to ensure that their policies and measures are regularly reviewed and updated in light of evolving scientific knowledge. The Tribunal specifically noted that the due diligence obligation is one of conduct, not of result, but that the standard of conduct required is particularly stringent given the severity and irreversibility of the potential harm to the marine environment from climate change.

The stringency of the due diligence standard confirmed by the Advisory Opinion has significant implications for the assessment of Bangladesh's obligations. While Bangladesh is, by global standards, a minor contributor to greenhouse gas emissions, it is nevertheless a state party to UNCLOS and subject to the due diligence obligation confirmed by the Advisory Opinion. The Advisory Opinion's acknowledgment of the principle of Common But Differentiated Responsibilities and Respective Capabilities, in Articles 202 and 203 of UNCLOS, is relevant here: states with greater capabilities are obligated to provide greater assistance to states with

lesser capacities, and states with lesser capacities are required to make proportionate efforts to fulfill their obligations. For Bangladesh, this means that the due diligence standard requires efforts proportionate to Bangladesh's capabilities and circumstances, but it does not mean that Bangladesh is exempt from the obligation.

The enforcement of the due diligence obligation confirmed by the Advisory Opinion presents significant practical challenges. Advisory opinions of international tribunals are not formally binding in the same sense as contentious judgments, and they do not create direct enforcement mechanisms. However, they create powerful precedential authority, and their findings are likely to be applied in subsequent contentious proceedings before ITLOS and other international tribunals. The prospect of international legal claims against major emitting states, based on the Advisory Opinion's confirmation of UNCLOS obligations regarding greenhouse gas emissions, is a significant development in the landscape of international climate litigation that Bangladesh should follow closely and potentially engage with strategically.

2.3 The Sources of Marine Pollution under UNCLOS: A Systematic Analysis

UNCLOS organizes the prevention of marine pollution by reference to six categories of sources, each of which is addressed in a distinct cluster of articles within Part XII. Understanding the structure of this source-based framework is essential for any assessment of Bangladesh's domestic legal compliance with its UNCLOS obligations.

The first category, land-based pollution governed by Articles 207 to 212, is the most significant source of marine pollution globally, accounting for an estimated 70 to 80 percent of all marine pollution by volume. Land-based pollution includes agricultural runoff carrying fertilizers and pesticides, industrial effluents from factories and processing plants, domestic sewage from urban and rural areas, and the diffuse pollution carried by rivers from inland sources. For Bangladesh, land-based pollution is particularly significant given the enormous volume of water discharged by the Ganges-Brahmaputra-Meghna river system, which carries pollutants from across the entire catchment area, including from Bangladesh itself, from India, from Nepal, and from Bhutan. The transboundary dimension of land-based pollution makes its governance particularly complex, requiring both domestic regulation and international cooperation.

Article 207 requires states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment from land-based sources, taking into account internationally agreed rules, standards, and recommended practices and procedures. Article 207(4) further requires states to endeavor to establish global and regional rules and standards in this respect through competent international organizations or diplomatic conferences, taking into account characteristic regional features, the economic capacity of developing states and their need for economic development. Bangladesh's domestic legislation contains some relevant provisions, most notably in the Bangladesh Environment Conservation Act of 1995 and its amendments, but these provisions are not specifically directed at marine pollution from land-based sources in the context of UNCLOS and are generally regarded as inadequately enforced.

The second category, seabed activities pollution governed by Articles 208 and 214, covers pollution from offshore drilling, mining, and other seabed activities subject to national

jurisdiction. This category is of increasing relevance to Bangladesh as the government pursues offshore hydrocarbon development in the Bay of Bengal. Article 208 requires coastal states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment arising from seabed activities subject to their jurisdiction and from artificial islands, installations, and structures. The article specifies that these laws and regulations shall be no less effective than international rules, standards, and recommended practices and procedures. Bangladesh's current legislation is inadequate in this regard, particularly in relation to the regulation of offshore drilling operations, blowout prevention, and emergency response to offshore oil spills.

The third category, dumping pollution governed by Articles 210 and 216, covers the deliberate disposal of wastes at sea. This is regulated internationally primarily through the London Protocol of 1996 to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972, which Bangladesh has not ratified. The failure to ratify the London Protocol is a significant gap in Bangladesh's international environmental treaty framework, and it is a matter that should be addressed as part of a comprehensive maritime law reform.

The fourth category, vessel-source pollution governed by Articles 211 and 217 to 220, covers pollution from ships, including both operational discharges such as oil, sewage, garbage, and ballast water, and accidental pollution from collisions, groundings, and other marine casualties. This category is regulated internationally through the MARPOL Convention of 1973/78 and its annexes, which Bangladesh has ratified, though the domestic implementation of MARPOL standards through port reception facilities, vessel inspection programs, and effective enforcement remains inadequate.

The fifth category, atmospheric pollution governed by Article 212, covers pollution of the marine environment from or through the atmosphere, including pollution from land-based and ship-based emissions. This provision was the primary legal basis for the ITLOS Advisory Opinion's application of UNCLOS obligations to greenhouse gas emissions, since the Tribunal found that the introduction of carbon dioxide and other greenhouse gases into the atmosphere, which subsequently affects the ocean through ocean warming, acidification, and sea-level rise, constitutes the introduction of substances or energy into the marine environment within the meaning of Article 1(1)(4) of UNCLOS.

2.4 The Legal Framework for Pollution Prevention: International Conventions Beyond UNCLOS

The UNCLOS framework for marine pollution prevention is supplemented and developed by a range of more specific international conventions, each of which addresses particular aspects or sources of marine pollution. Bangladesh's treaty adherence to these conventions, and the domestic implementation of its obligations under them, is a critical dimension of its marine environmental governance that requires systematic assessment.

The most important of these supplementary conventions is MARPOL, the International Convention for the Prevention of Pollution from Ships, concluded in its current form in 1978 as a protocol to the original 1973 Convention. MARPOL, which is administered by the International Maritime Organization, contains six annexes addressing different categories of vessel-source

pollution: Annex I covers oil pollution; Annex II covers noxious liquid substances carried in bulk; Annex III covers harmful substances carried in packaged form; Annex IV covers sewage from ships; Annex V covers garbage from ships; and Annex VI covers air pollution from ships, including nitrogen oxides, sulphur oxides, and particulate matter. Bangladesh has ratified MARPOL and its first five annexes, though Annex VI on air pollution has not been universally implemented. The domestic implementation of MARPOL through port reception facilities, vessel inspection programs, and effective enforcement of discharge standards remains inadequate.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal of 1989 is relevant to Bangladesh's maritime environmental framework in the context of the shipbreaking industry concentrated at the Chittagong coast. Bangladesh is one of the world's leading ship recycling nations, and the shipbreaking operations at Chittagong Beach involve the handling and disposal of hazardous materials from decommissioned vessels, including asbestos, polychlorinated biphenyls, heavy metals, and residual oil and fuel. The environmental and health impacts of these operations, particularly on the workers employed in the yards and on the marine ecosystem of the coastal area, have been extensively documented, and the adequacy of Bangladesh's regulatory framework for the industry has been the subject of international concern and litigation.

The International Convention on Civil Liability for Oil Pollution Damage and the International Oil Pollution Compensation Funds, which provide a framework for liability and compensation in the event of oil spills from tankers, are relevant to Bangladesh as a port state and as a coastal state through whose EEZ significant quantities of petroleum are transported. Bangladesh has ratified the 1969 Civil Liability Convention and the 1971 Fund Convention, but not the more recent 1992 versions of these instruments, which provide higher levels of compensation. The failure to accede to the current liability regime creates a gap in the legal protection available to Bangladesh in the event of a major oil spill in its maritime zones.

The International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS Convention) of 2001 prohibits the use of harmful organotin compounds in anti-fouling paints applied to ships. Bangladesh ratified this Convention, but enforcement in its ports and shipyards is uneven. The Ballast Water Management Convention of 2004, which requires ships to manage their ballast water to prevent the introduction of invasive species into new marine environments, entered into force in 2017 and is directly relevant to the protection of the Bay of Bengal's biodiversity from the impacts of shipping. Bangladesh's domestic implementation of the Ballast Water Management Convention requires strengthening, particularly in terms of port reception facilities and the inspection and enforcement of ballast water management requirements for vessels calling at Bangladeshi ports.

2.5 Environmental Impact Assessment in the Marine Context: International Standards and Domestic Gaps

Environmental impact assessment (EIA) is one of the foundational procedural tools of modern environmental governance. The requirement to assess the potential environmental impacts of proposed activities before they are permitted is established in a range of international instruments, including Principle 17 of the Rio Declaration, Article 206 of UNCLOS, and the

BBNJ Agreement that entered into force on 17 January 2026. EIA is also a well-established principle of domestic environmental law in Bangladesh, reflected primarily in the Bangladesh Environment Conservation Act of 1995 and the Environment Conservation Rules of 1997.

Article 206 of UNCLOS requires states to assess the potential effects of activities planned under their jurisdiction or control when they have reasonable grounds for believing that such activities may cause substantial pollution of or significant and harmful changes to the marine environment, and to publish reports on such assessments. This obligation applies to all activities in Bangladesh's maritime zones that could cause substantial marine pollution, including offshore hydrocarbon development, large-scale aquaculture operations, the construction of artificial islands and installations, and major port development projects.

The BBNJ Agreement, which entered into force on 17 January 2026, introduces more detailed and ambitious EIA requirements for activities with potential impacts on marine biodiversity beyond national jurisdiction. While the BBNJ Agreement's EIA provisions are primarily directed at activities in areas beyond national jurisdiction, they establish standards and procedures that are relevant to Bangladesh's own EIA framework and that should inform the development of domestic marine EIA standards. The BBNJ Agreement requires cumulative impact assessments, strategic environmental assessments for plans and programs in addition to project-specific assessments, and public participation in the EIA process, all of which represent standards that Bangladesh's current domestic EIA framework does not fully meet.

The gap between international EIA standards and Bangladesh's domestic practice in the maritime context is substantial. The Department of Environment's EIA procedures, while establishing a general framework for environmental assessment, do not contain specific provisions for offshore activities, do not require cumulative assessment of the combined impacts of multiple activities on the marine ecosystem, and do not include adequate provisions for public participation by fishing communities and other stakeholders who may be affected by maritime development projects. A comprehensive maritime EIA framework, specific to the marine environment and aligned with UNCLOS and BBNJ Agreement standards, is an essential element of the legislative reform agenda.

CHAPTER 3: THE 2024 ITLOS ADVISORY OPINION: A LANDMARK IN ECOLOGICAL JURISPRUDENCE

3.1 Background and Context: The COSIS Initiative and the Architecture of the Request

The 2024 ITLOS Advisory Opinion in Case No. 31 was the product of a carefully conceived legal and diplomatic strategy by the Commission of Small Island States on Climate Change and International Law, known as COSIS, which was established in 2021 by Antigua and Barbuda and Tuvalu, two of the Pacific island nations most acutely threatened by climate change and sea-level rise. COSIS was established precisely to pursue the legal strategy of requesting advisory opinions from international tribunals on states' obligations regarding climate change, and the

request to ITLOS was the first in a planned sequence of advisory proceedings before ITLOS, the International Court of Justice, and the Inter-American Court of Human Rights.

The COSIS request to ITLOS, submitted on 12 December 2022, posed two questions structured in a specific way that maximized the prospects of a clear and legally significant response. The first question asked about the specific obligations of state parties to UNCLOS to prevent, reduce, and control pollution of the marine environment in relation to climate change impacts, including ocean warming, sea-level rise, and ocean acidification caused by anthropogenic greenhouse gas emissions. The second question asked about the obligations to protect and preserve the marine environment in relation to those same climate change impacts. The framing of the questions ensured that they were directed at UNCLOS obligations specifically, rather than at climate change obligations under the UNFCCC or the Paris Agreement, which were the subject of separate proceedings before other bodies.

The proceedings attracted extraordinary engagement from the international community. Thirty-one states and a number of intergovernmental organizations submitted written statements. Oral hearings were held in September 2023. The submissions revealed deep divisions among states about the scope and content of UNCLOS obligations in the climate change context, with some states, including major emitting states, arguing for a narrow interpretation that would limit obligations to existing climate frameworks, and other states, particularly small island developing states and developing coastal states, arguing for a broad interpretation that would impose demanding obligations on all states regardless of their commitments under the Paris Agreement.

The Tribunal delivered its Advisory Opinion on 21 May 2024, and it was notable in several respects. First, it was unanimous, with all twenty-one judges agreeing on the operative paragraphs of the Opinion. This unanimity was a powerful signal of the strength and clarity of the legal conclusions reached, and it significantly enhanced the authority of the Opinion as a statement of international law. Second, the Opinion went further than many observers had anticipated in articulating specific and demanding obligations for state parties. Third, the Opinion's use of external scientific materials, particularly the reports of the Intergovernmental Panel on Climate Change, in interpreting the content of UNCLOS obligations was methodologically significant and has been the subject of substantial academic commentary.

3.2 The Core Holding: Greenhouse Gas Emissions as Marine Pollution

The Tribunal's central holding that anthropogenic greenhouse gas emissions constitute pollution of the marine environment within the meaning of Article 1(1)(4) of UNCLOS was both legally audacious and jurisprudentially well-grounded. The definition of marine pollution in Article 1(1)(4) covers the introduction by humans, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in deleterious effects such as harm to living resources and marine life, hazards to human health, hindrance to marine activities including fishing and other legitimate uses of the sea, impairment of quality for use of sea water, and reduction of amenities.

The Tribunal's reasoning in reaching its conclusion that greenhouse gas emissions meet this definition proceeded in several steps. First, it found that carbon dioxide and other greenhouse

gases are substances within the meaning of the definition. The argument that these are naturally occurring gases and therefore cannot constitute introduced substances was rejected; the definition covers the introduction of substances into the marine environment by humans, and the industrial emission of greenhouse gases is manifestly a human activity. Second, the Tribunal found that greenhouse gases are introduced into the marine environment indirectly through the atmosphere, which falls within the scope of the definition's reference to introduction directly or indirectly. Third, the Tribunal found that the introduction of greenhouse gases results or is likely to result in deleterious effects on the marine environment, specifically ocean warming, ocean acidification, and sea-level rise, all of which are well-documented harms to marine living resources, marine ecosystems, and human communities dependent on the sea.

This reasoning, which the Tribunal supported with extensive reference to IPCC scientific assessments, is persuasive and legally well-grounded. It reflects the Tribunal's commitment to an interpretive approach of systemic integration, reading UNCLOS in light of other relevant rules of international law including both the climate change instruments and the scientific consensus on climate change. The interpretive methodology is consistent with Article 31(3)(c) of the Vienna Convention on the Law of Treaties, which requires treaties to be interpreted in accordance with any relevant rules of international law applicable in the relations between the parties, and it reflects the evolution of international law as an increasingly coherent and interrelated system rather than a collection of isolated treaty regimes.

The practical implications of this holding for Bangladesh are profound. They operate on two levels simultaneously. At the level of rights, the holding confirms that Bangladesh, as a state experiencing marine pollution from greenhouse gas emissions that it largely did not cause, has a legal basis under UNCLOS to invoke the obligations of other states parties in relation to that pollution. At the level of obligations, the holding confirms that Bangladesh itself, as a state party to UNCLOS, has due diligence obligations to take all necessary measures to prevent, reduce, and control marine pollution from its own greenhouse gas emissions, proportionate to its capabilities and circumstances.

3.3 The Due Diligence Standard Under the Advisory Opinion: Specificities and Demands

The Tribunal's elaboration of the due diligence standard applicable to the prevention of marine pollution from greenhouse gas emissions is one of the most significant and most detailed aspects of the Advisory Opinion. The Tribunal confirmed that the standard of due diligence requires state parties to apply the best available science in assessing the risks of marine pollution, to adopt the highest possible level of ambition in setting emissions reduction targets, to implement effective domestic measures for achieving those targets, and to participate actively and in good faith in international efforts to address climate change.

Several specific aspects of the due diligence standard deserve particular attention in the Bangladesh context. First, the Tribunal confirmed that the due diligence standard is not a static one; it evolves over time as scientific knowledge advances and as technological options for emissions reduction become available. This means that what constituted adequate due diligence in 2015, when the Paris Agreement was adopted, may not constitute adequate due diligence in 2024 or 2026, and states must regularly review and update their policies and measures in light of

evolving knowledge and capability. For Bangladesh, this creates a continuing obligation of policy review and updating that is not currently reflected in the domestic legal framework.

Second, the Tribunal confirmed that the obligation applies to all emissions within a state's jurisdiction and control, including emissions from the shipping sector. This is significant for Bangladesh, which has a growing shipping industry and significant port activity. The International Maritime Organization's efforts to decarbonize international shipping, including the 2023 IMO Strategy on Reduction of GHG Emissions from Ships, are directly relevant to Bangladesh's obligations under the Advisory Opinion, and Bangladesh should incorporate IMO decarbonization requirements into its domestic legal framework for the maritime sector.

Third, the Tribunal's discussion of the relationship between due diligence and the Paris Agreement framework is nuanced and important. The Tribunal held that the Paris Agreement is relevant to the content of UNCLOS obligations but does not exhaust them. Specifically, the temperature goal of 1.5 degrees Celsius above pre-industrial levels and the accompanying emissions pathways set out in the Paris Agreement inform the content of the necessary measures that UNCLOS Article 194 requires. But simply adopting a Nationally Determined Contribution and taking steps to implement it is not necessarily sufficient to satisfy the due diligence obligation under UNCLOS; the measures must be genuinely necessary, and the NDC must reflect the highest possible ambition given the state's capabilities and circumstances.

Fourth, the Tribunal confirmed that the due diligence obligation includes obligations of environmental impact assessment, monitoring, and reporting. States are required to assess the marine environmental impacts of their activities and policies, to monitor the state of the marine environment, and to cooperate in the exchange of information and data relevant to the protection of the marine environment. These obligations have specific implications for Bangladesh's domestic institutional capacity, including the need for investment in marine environmental monitoring systems, ocean observation networks, and the scientific capacity to assess and report on the state of the Bay of Bengal.

3.4 The Advisory Opinion and the Relationship Between UNCLOS and Other Treaty Regimes

One of the most contentious and legally significant aspects of the Advisory Opinion concerns the relationship between UNCLOS and other treaty regimes, particularly the Paris Agreement and the broader UNFCCC framework. Several major emitting states argued in their submissions that the climate change regime constitutes lex specialis in relation to climate obligations, meaning that the specific and more detailed provisions of the Paris Agreement should take precedence over the general provisions of UNCLOS in cases of potential conflict.

The Tribunal decisively rejected this argument. It held that the UNFCCC and the Paris Agreement are not lex specialis in the traditional sense, because they do not purport to displace or substitute for the obligations of states under UNCLOS in relation to the marine environment. Rather, the climate change instruments and UNCLOS operate in parallel, each imposing distinct obligations in its own domain of application. The climate change instruments address mitigation obligations through nationally determined contributions, adaptation obligations, and financial

and technology transfer obligations, but they do not purport to regulate the specific obligations of states to protect the marine environment that arise under UNCLOS Part XII.

This holding has major implications for the governance architecture of international climate action. It means that the Paris Agreement's nationally determined contribution framework, which is explicitly based on national self-differentiation and allows each state to set its own ambition level, is not the ceiling of states' legal obligations regarding greenhouse gas emissions. States whose NDCs do not reflect the measures necessary to prevent, reduce, and control marine pollution may find themselves in breach of their UNCLOS obligations even while formally complying with the Paris Agreement. This creates an additional layer of international legal obligation and accountability that is independent of the UNFCCC negotiating process.

The implications of this doctrinal point for Bangladesh are twofold. First, as a victim state that has experienced documented marine pollution from greenhouse gas emissions, Bangladesh can invoke both the Paris Agreement framework and the UNCLOS framework in its climate diplomacy, potentially arguing that major emitting states are in breach of their UNCLOS obligations even if they are complying with their Paris Agreement commitments. Second, as a state party to UNCLOS with its own due diligence obligations, Bangladesh must ensure that its own domestic climate policies reflect the UNCLOS standard of due diligence, which as the Advisory Opinion makes clear may be more demanding than what the NDC framework requires.

3.5 The ICJ Advisory Opinion of July 2025: Complementary Elaboration

The International Court of Justice delivered its own Advisory Opinion on climate change obligations on 23 July 2025, in response to a request from the UN General Assembly adopted in April 2023. The ICJ Advisory Opinion built on and complemented the ITLOS Opinion, addressing the general obligations of states under international law to protect the climate and to take measures to reduce greenhouse gas emissions, including the application of the law of state responsibility to climate change.

The ICJ Opinion confirmed and reinforced several of the key findings of the ITLOS Advisory Opinion. It affirmed that states have obligations erga omnes partes, obligations owed to all states parties to the relevant treaties, including UNCLOS, to protect the climate and to prevent the harms associated with climate change. It confirmed the relevance of the 1.5 degree Celsius temperature goal and associated emissions pathways as the reference standard for states' obligations under international environmental law. And it addressed the question of state responsibility for climate change, confirming that states whose failure to take adequate measures to reduce emissions constitutes a breach of international law bear responsibility for that breach, with implications for the availability of remedies including compensation.

The ICJ Opinion also addressed the specific situation of small island developing states and low-lying coastal states, recognizing their particular vulnerability to climate change impacts and confirming that the principle of Common But Differentiated Responsibilities and Respective Capabilities applies to determine the content of states' obligations and the appropriate measures they are required to take. For Bangladesh, which is both a low-lying delta state acutely

vulnerable to sea-level rise and a developing country with limited historical responsibility for global greenhouse gas emissions, this aspect of the ICJ Opinion is of particular significance.

CHAPTER 4: THE BBNJ AGREEMENT IN FORCE: A NEW LEGAL ARCHITECTURE FOR THE COMMONS

4.1 The Entry into Force of the BBNJ Agreement and Its Significance

On 17 January 2026, the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction entered into force, becoming the third implementing agreement to UNCLOS and the first comprehensive international legal framework for the governance of marine biodiversity in areas beyond national jurisdiction. The Agreement's entry into force followed the deposit of the sixtieth instrument of ratification on 19 September 2025, when Morocco became the sixtieth country to ratify, triggering the 120-day countdown to entry into force in accordance with Article 68(1).

The BBNJ Agreement, concluded on 19 June 2023 after nearly two decades of negotiations, is a landmark in the development of international ocean law and governance. It addresses four major elements: marine genetic resources and the fair and equitable sharing of benefits arising from their utilization; area-based management tools including marine protected areas; environmental impact assessments for activities beyond national jurisdiction; and capacity building and the transfer of marine technology. The first Preparatory Commission session for the establishment of the BBNJ Agreement's institutional framework convened in April 2025, with the second session in August 2025, and the third session scheduled for March 2026.

The legal significance of the BBNJ Agreement is best understood in the context of the evolution of international ocean governance described in earlier parts of this commentary. UNCLOS, adopted in 1982, left significant governance gaps in relation to areas beyond national jurisdiction, particularly with respect to the management of living marine resources and biodiversity in the high seas and in the Area. The two existing implementing agreements to UNCLOS, the 1994 Agreement on the Implementation of Part XI relating to the deep seabed regime and the 1995 UN Fish Stocks Agreement, addressed specific aspects of this governance gap but left the broader question of high seas biodiversity management unresolved. The BBNJ Agreement fills this gap by providing a comprehensive framework for the governance of marine biodiversity beyond national jurisdiction.

4.2 Marine Genetic Resources: Benefit Sharing and the Common Heritage Principle

The first and arguably most politically contentious element of the BBNJ Agreement concerns marine genetic resources and the sharing of benefits from their utilization. Marine genetic resources, meaning the genetic material of marine origin with actual or potential value, include the biological compounds and genetic sequences found in deep-sea organisms, which have potential applications in pharmaceuticals, cosmetics, food supplements, biotechnology, and

industrial processes. The discovery and commercial exploitation of marine genetic resources has been dominated by scientifically and technologically advanced states and private corporations, raising profound questions of equity about the distribution of benefits from a commons that belongs, at least in principle, to all of humanity.

The most contested question in the BBNJ negotiations was whether the common heritage of mankind principle should apply to marine genetic resources in areas beyond national jurisdiction. Developing states, led by the G-77, argued that the common heritage principle, which applies to seabed minerals under UNCLOS Part XI, should apply equally to marine genetic resources, meaning that their utilization should be governed by an international authority for the benefit of all states, with a mandatory benefit-sharing regime. Developed states, particularly the European Union, the United States, and Japan, argued against the application of the common heritage principle to living genetic resources, both on legal grounds and on grounds of practicality and effectiveness.

The compromise reflected in the BBNJ Agreement is an innovative one that draws elements from both the common heritage and the freedom of the seas principles. It creates a monetary and non-monetary benefit-sharing system for marine genetic resources, requiring entities that utilize these resources to share benefits with the international community through a Special Fund established under the Agreement, while preserving freedom of access to the resources themselves. The exact parameters of the mandatory monetary sharing will be developed by the Conference of the Parties, but the principle of sharing is established and legally binding.

For Bangladesh, a developing country with limited capacity for marine biotechnology research but with a significant interest in ensuring equitable access to the benefits of marine genetic resource exploitation, the BBNJ Agreement's benefit-sharing provisions represent an important advance. Bangladesh should ratify the BBNJ Agreement promptly and should engage actively in the COP process to ensure that the benefit-sharing mechanism is designed in a way that serves the interests of developing coastal states. The development of Bangladesh's own capacity for marine scientific research, including research on marine genetic resources in the Bay of Bengal, would both enhance Bangladesh's contribution to the global commons of marine knowledge and position Bangladesh to benefit from the Agreement's provisions on capacity building and technology transfer.

4.3 Area-Based Management Tools and Marine Protected Areas

The second element of the BBNJ Agreement creates a framework for the establishment of area-based management tools in areas beyond national jurisdiction, including marine protected areas. This is a significant advance in international ocean governance, since the high seas have previously lacked a mechanism for the establishment of marine protected areas beyond the voluntary and geographically limited arrangements made by regional fisheries management organizations and regional seas programs.

The BBNJ Agreement's framework for area-based management tools does not create a centralized authority with the power to designate and manage marine protected areas unilaterally. Instead, it creates a multilateral process through which states can propose area-based

management tools, which are then reviewed and adopted by the COP through a collaborative and science-based process. This approach reflects the political reality that states were unwilling to accept a regime that would override their sovereign discretion, but it is hoped that the multilateral process will generate genuine conservation outcomes through the power of scientific persuasion and international peer review.

For Bangladesh, the BBNJ Agreement's area-based management provisions are relevant to the governance of the portions of the Bay of Bengal that lie beyond national jurisdiction. The Bay of Bengal, as described in earlier parts of this commentary, is a semi-enclosed sea surrounded by the coastal states of Bangladesh, India, Myanmar, Thailand, and Sri Lanka, with the Andaman and Nicobar Islands providing additional geographical complexity. The areas beyond the 200-mile EEZ limits of these states form part of the high seas, and the establishment of area-based management tools in these areas could contribute significantly to the conservation of migratory species, the protection of deep-sea ecosystems, and the overall health of the Bay of Bengal ecosystem.

Bangladesh should champion the establishment of area-based management tools in the Bay of Bengal high seas within the BBNJ Agreement framework, working in partnership with other Bay of Bengal states through the BIMSTEC framework and through the Bay of Bengal Large Marine Ecosystem project. This would simultaneously advance Bangladesh's conservation interests, strengthen its reputation as a responsible ocean governance actor, and provide a practical demonstration of the BBNJ Agreement's potential to deliver real conservation outcomes in specific marine ecosystems.

4.4 Environmental Impact Assessment under the BBNJ Agreement

The BBNJ Agreement's EIA provisions, contained in Part IV, establish a mandatory framework for the assessment of the potential impacts on marine biodiversity of activities planned in areas beyond national jurisdiction. States are required to conduct environmental impact assessments for activities under their jurisdiction or control that may have more than a minor or transitory effect on the marine biodiversity of areas beyond national jurisdiction. The Agreement specifies minimum standards for EIA content, process, and public participation, and it establishes a mechanism for the review and communication of EIA findings at the international level.

These EIA provisions have indirect but significant implications for Bangladesh's domestic marine EIA framework. Activities in Bangladesh's EEZ that could have transboundary effects on the high seas or on the marine environment beyond national jurisdiction may trigger obligations under both UNCLOS Article 206 and the BBNJ Agreement framework. More broadly, the BBNJ Agreement's EIA standards, which represent the current international consensus on best practice in marine environmental assessment, provide a benchmark against which Bangladesh's domestic EIA procedures should be evaluated and upgraded.

The connection between the BBNJ Agreement's EIA provisions and the ITLOS Advisory Opinion's confirmation of due diligence obligations is particularly important. The Advisory Opinion confirmed that the due diligence obligation under UNCLOS includes an obligation to conduct environmental impact assessments for activities that could cause significant marine

pollution. The BBNJ Agreement specifies the minimum content and procedural requirements for such assessments. Together, these two instruments create a comprehensive international framework for marine EIA that Bangladesh's domestic legislation must ultimately reflect.

4.5 Capacity Building and Technology Transfer: Opportunities for Bangladesh

The fourth element of the BBNJ Agreement, capacity building and the transfer of marine technology, is the element with the most direct and immediate practical significance for Bangladesh. The Agreement creates a Committee on Capacity-Building and the Transfer of Marine Technology with a mandate to assess the capacity-building needs of developing state parties and to facilitate the provision of capacity-building support through the Agreement's institutional framework and through bilateral and multilateral partnerships.

The capacity-building needs of Bangladesh in the marine environmental governance context are extensive and well-documented. They include: physical oceanography and hydrographic survey capacity; marine biological research and stock assessment capability; ocean monitoring and remote sensing technology; marine environmental laboratory facilities; training and education in maritime environmental law and governance; legal and technical expertise for international negotiations and dispute settlement; and institutional capacity for inter-agency coordination in maritime governance. The BBNJ Agreement's capacity-building framework could potentially provide support in all of these areas.

Bangladesh's engagement with the BBNJ Agreement's institutional processes, including the Preparatory Commission sessions and the eventual Conference of the Parties, should be a high priority for Bangladesh's diplomatic and legal establishment. The negotiations of the specific parameters of the benefit-sharing mechanism, the procedures for area-based management tools, and the standards and criteria for environmental impact assessments will all significantly affect Bangladesh's interests and obligations under the Agreement. Early and active engagement in these processes is essential to ensure that the Agreement's implementation serves Bangladesh's interests as a developing coastal state with significant marine environmental vulnerabilities.

CHAPTER 5: BANGLADESH'S MARINE ENVIRONMENTAL CRISIS: THE SCIENTIFIC AND ECOLOGICAL DIMENSION

5.1 The State of the Bay of Bengal: Ecological Stress Indicators

To understand the urgency of marine environmental law reform in Bangladesh, it is necessary to confront directly the scientific evidence of the ecological condition of the Bay of Bengal and the specific threats facing Bangladesh's maritime environment. This evidence is alarming, and any legal commentary that does not acknowledge its gravity is guilty of a failure of intellectual honesty.

The Bay of Bengal, as noted in the preface to this Part, has undergone significant and in several respects irreversible ecological changes in recent decades. Ocean warming in the Bay has

outpaced global averages, with surface temperatures rising by approximately 0.5 degrees Celsius since the 1970s and with projections suggesting further warming of between 1 and 3 degrees Celsius by the end of the century under various emissions scenarios. This warming has affected the distribution, abundance, and seasonal timing of marine species throughout the Bay, disrupting the ecological processes on which fisheries productivity depends.

Ocean acidification in the Bay of Bengal is proceeding at a rate consistent with global trends. The early 1980s surface water pH of approximately 8.3 has declined to between 7.9 and 8.0 in recent coastal and estuarine measurements, with some hotspots recording values as low as 7.73. This represents a 30 percent increase in ocean acidity, expressed in terms of hydrogen ion concentration, over five decades. The impacts of acidification on the carbonate chemistry of seawater are particularly damaging to organisms that build shells and skeletons from calcium carbonate, including shellfish, corals, and many species of plankton. Since plankton form the base of the marine food web, acidification-induced impacts on plankton abundance and community composition have cascading effects throughout the entire food chain, ultimately affecting the fish stocks on which millions of Bangladeshis depend.

The decline of fish stocks in Bangladesh's waters is one of the most economically and socially consequential dimensions of the marine environmental crisis. As noted above, Bangladesh's total marine fish harvest in FY 2023-24 was the lowest in nine years. The decline in catch per unit of effort, measured by catches per artisanal boat, has been dramatic and sustained, from 13 tonnes in 2000 to barely 4 tonnes in 2020 according to World Bank data. This decline reflects the combined effects of overfishing, habitat degradation, pollution, climate change impacts on species distribution, and the displacement of small-scale fishers by industrial trawlers. The loss of 81 fish species from Bangladesh's coastal waters since 1971, from 475 to 394 species, is a stark indicator of biodiversity loss that cannot be reversed by any foreseeable legal or technological intervention.

Plastic pollution is another major and rapidly worsening threat to the Bay of Bengal's marine environment. An estimated 73,000 tonnes of marine plastic pollution enters the Bay of Bengal annually, coming from rivers, coastal communities, fishing vessels, and maritime transport. The Department of Marine Fisheries' initiative launched in January 2024, working with 250 commercial trawlers to install onboard waste bins, is a commendable first step, but it addresses only a tiny fraction of the total plastic pollution entering the Bay. The microplastics that result from the degradation of larger plastic items have been found in the tissues of fish, shellfish, and other marine organisms throughout the Bay, and their accumulation in the marine food chain poses documented risks to both marine biodiversity and human health.

The mangrove ecosystems of the Sundarbans, which provide critical habitat for marine juvenile fish, serve as nurseries for commercially important species, protect the coast from storm surges, and sequester carbon at rates among the highest of any terrestrial or coastal ecosystem, are under severe and multiple threats. Sea-level rise associated with climate change, cyclone impacts, saline intrusion, pollution from industrial and agricultural sources, illegal logging and poaching, and the cumulative effects of river engineering on freshwater flow into the mangrove system all threaten the ecological integrity of the Sundarbans. The legal framework for the Sundarbans' protection, distributed across forest legislation, environmental conservation law, wildlife

protection law, and maritime law without effective integration, is entirely inadequate to the scale and urgency of the threat.

5.2 Shipbreaking at Chittagong: Environmental Crisis and Legal Inadequacy

The shipbreaking industry concentrated on the Chittagong coast represents one of the most acute and well-documented environmental crises in Bangladesh's maritime domain. Bangladesh is one of the world's three largest ship recycling nations, along with India and Pakistan, and the shipbreaking yards at Sitakunda, north of Chittagong, handle a significant proportion of the world's end-of-life vessels. The industry employs tens of thousands of workers and contributes significantly to Bangladesh's supply of recycled steel. But it also generates one of the most hazardous occupational and environmental situations in the world.

Decommissioned vessels contain a wide range of toxic and hazardous materials, including asbestos, polychlorinated biphenyls, heavy metals including lead, mercury, cadmium, and arsenic, tributyltin from anti-fouling paints, and residual oil and fuel. The beach-breaking method used in Bangladesh, in which vessels are run aground on tidal flats and dismantled by hand, maximizes recovery of steel but is extremely dangerous for workers and releases hazardous materials directly into the marine environment. Scientific studies have documented elevated concentrations of heavy metals and hydrocarbons in the sediments, water, and biota of the Sitakunda coast, and workers in the shipbreaking yards suffer high rates of occupational disease and injury.

The legal framework governing the shipbreaking industry in Bangladesh is fragmented and inadequate. The Bangladesh Ship Breaking and Recycling Rules of 2011, amended in 2019, provide some environmental and safety standards for the industry, but enforcement is weak and the standards fall well short of the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships of 2009, to which Bangladesh acceded in 2011 but the full implementation of which has been slow. The Hong Kong Convention entered into force in June 2025, following the deposit of the required number of ratifications, and Bangladesh, as an acceding state, is now legally required to implement its standards. The Convention requires all ship recycling facilities to be inventoried, certified, and environmentally managed to standards that are significantly more demanding than current practice at Chittagong.

The interaction between the shipbreaking industry and Bangladesh's marine environmental obligations under UNCLOS is direct and significant. The release of hazardous materials from shipbreaking operations into the coastal waters of the Bay of Bengal constitutes marine pollution within the meaning of UNCLOS Article 1(1)(4) and violates Bangladesh's obligations under UNCLOS Article 208 to adopt laws and regulations to prevent pollution from seabed activities subject to national jurisdiction. The inadequacy of Bangladesh's regulatory framework for the shipbreaking industry is therefore not merely a matter of domestic environmental governance; it is a matter of international legal compliance.

5.3 Land-Based Pollution: The River Systems as Conduits

The land-based pollution of the Bay of Bengal through the Ganges-Brahmaputra-Meghna river system is a problem of extraordinary scale and complexity. The GBM system is the world's third-largest river system by discharge volume, delivering an average of approximately 1,300 cubic kilometres of freshwater to the Bay of Bengal each year. This enormous volume of water also carries enormous loads of pollutants from the entire catchment area, which extends from the Tibetan Plateau through the densely populated and industrializing plains of India and Bangladesh to the Bay.

The pollutants carried by the GBM system to the Bay of Bengal include agricultural chemicals, particularly nitrogen and phosphorus fertilizers and pesticides from the intensively farmed plains of Bangladesh, India, and Nepal; industrial effluents from the textile, leather, pharmaceutical, and other manufacturing industries concentrated in Dhaka, Narayanganj, and other industrial centers; municipal sewage from the urban agglomerations of Bangladesh and from the densely populated riparian areas of India; heavy metals from industrial processes; and organic pollutants from a wide range of sources. The nitrogen and phosphorus loads from agricultural runoff are particularly significant, contributing to eutrophication and the formation of dead zones, areas of severely reduced oxygen concentration, in the northern Bay of Bengal.

Bangladesh's domestic legal framework for the prevention of land-based marine pollution is inadequate in several fundamental respects. The Environmental Court Act of 2010 established specialized environmental courts, but these courts handle individual enforcement cases rather than addressing the systemic causes of land-based pollution. The Bangladesh Environment Conservation Act and the Environment Court Act provide legal basis for action against individual polluters, but they do not establish a comprehensive framework for the management of non-point source pollution from agriculture, which is the largest single contributor to the nutrient pollution of the Bay of Bengal. And there is no domestic legal framework specifically addressing the marine pollution implications of land-based activities, connecting the governance of inland pollution sources with the obligations of UNCLOS Part XII.

The transboundary dimension of land-based pollution from the GBM river system creates additional legal complexity. The major pollutant loads from India and Nepal arrive in Bangladesh's coastal waters through the shared river system, and the domestic regulation of pollution sources in Bangladesh can address only a fraction of the total pollutant load reaching the Bay. This creates a compelling argument for international cooperation under the UNCLOS framework on land-based pollution, particularly through the development of regional action plans for the Bay of Bengal littoral states consistent with Article 207(4) of UNCLOS, which specifically calls for regional cooperation on land-based pollution standards.

5.4 IUU Fishing: Environmental Crime as Maritime Governance Failure

Illegal, unreported, and unregulated fishing is, as earlier parts of this commentary have noted, a major concern in the Bay of Bengal, and it has both direct environmental consequences in terms of overfishing and stock depletion and systemic governance implications as an indicator of the inadequacy of Bangladesh's maritime law enforcement capacity. The most recent estimates suggest that IUU fishing in the Bay of Bengal accounts for a significant proportion of total

catches, with foreign vessels, particularly from India and Myanmar, regularly operating in Bangladesh's EEZ in violation of its regulations.

The environmental consequences of IUU fishing are severe and well-documented. IUU fishing bypasses the conservation measures that sustainable fisheries management requires, including seasonal closures, gear restrictions, and catch limits. It depletes fish stocks faster than legal fishing would, pushing stocks toward overexploitation and potential collapse. It destroys habitat through the use of prohibited gear, including bottom trawls that drag across the seabed. And it disrupts the ecosystem management that UNCLOS Article 61 requires, by taking fish in quantities that exceed the sustainable yield and by targeting juvenile fish and non-target species.

The governance response to IUU fishing in Bangladesh's waters requires a combination of legal, institutional, and technological measures. On the legal front, the Marine Fisheries Ordinance of 1983 needs comprehensive reform to align with the FAO Code of Conduct for Responsible Fisheries, the International Plan of Action for IUU Fishing, and the Port State Measures Agreement, which provides for port state controls on vessels engaged in IUU fishing. Bangladesh ratified the Port State Measures Agreement in 2016, but domestic implementation requires strengthening. The legal framework for the prosecution and penalty of IUU fishing, including both domestic and foreign vessels, needs to be tightened, with penalties set at levels that genuinely deter the practice rather than merely representing a cost of doing business.

On the institutional front, the Joint Management Centre for vessel monitoring, mentioned in recent analyses of Bangladesh's blue economy governance, needs to be fully established and resourced, with comprehensive vessel monitoring system coverage for all fishing vessels operating in Bangladesh's waters. The information generated by vessel monitoring systems should be integrated with regional databases through BIMSTEC and the BOBP-IGO framework, enabling cross-border tracking of fishing vessel movements and facilitating the identification and prosecution of vessels engaged in IUU fishing.

CHAPTER 6: BANGLADESH'S DOMESTIC MARINE ENVIRONMENTAL LEGISLATION: A SYSTEMATIC CRITIQUE

6.1 The Legal Architecture: Laws, Gaps, and Contradictions

Bangladesh's domestic legal framework for the protection of the marine environment is, as this commentary has repeatedly noted, fragmented, inconsistent, and inadequate. The laws relevant to marine environmental protection are distributed across multiple statutes enacted at different times and administered by different agencies, without a coherent overarching framework that integrates these specific provisions into a systematic governance regime consistent with Bangladesh's international obligations under UNCLOS, MARPOL, the Basel Convention, the CBD, and other relevant international instruments.

The principal statutes relevant to marine environmental protection include the Territorial Waters and Maritime Zones Act of 1974 as amended in 2021; the Bangladesh Environment

Conservation Act of 1995 as amended; the Marine Fisheries Ordinance of 1983 as amended; the Merchant Shipping Ordinance of 1983; the Bangladesh Coast Guard Act of 2010; the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985; the Bangladesh Ship Breaking and Recycling Rules of 2011 as amended; the Wildlife Conservation and Security Act of 2012; and the Bangladesh Forest Act of 1927 as amended. The Sundarbans is specifically addressed through a combination of the Forest Act, the Wildlife Conservation Act, and UNESCO World Heritage site management arrangements, without a dedicated legal instrument that integrates its ecological governance under a single comprehensive framework.

The gaps and contradictions in this legislative landscape are numerous and significant. There is no domestic legal definition of marine pollution specifically aligned with the UNCLOS definition, creating uncertainty about the scope of regulatory authority and enforcement action. There is no comprehensive framework for environmental impact assessment in the marine context, specific to the distinct characteristics of offshore and coastal environments. There is no dedicated legal framework for marine spatial planning, despite the government's stated commitment to developing a marine spatial plan as part of the Blue Economy Work Plan. There is no legal basis for the establishment of marine protected areas in Bangladesh's EEZ, despite the government's stated goal of protecting 10 percent of EEZ waters as MPAs by 2030 in accordance with SDG 14. And there is no domestic legal provision implementing the climate obligations confirmed by the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion.

6.2 The Bangladesh Environment Conservation Act and the Marine Environment

The Bangladesh Environment Conservation Act of 1995, as amended most significantly in 2010, is the principal general environmental statute applicable to all environmental media including the marine environment. The Act establishes the Department of Environment as the central regulatory authority for environmental protection, empowers the Director-General to take action against activities causing environmental pollution, requires environmental clearance for development projects classified according to their environmental risk, and establishes the Environmental Court system for the adjudication of environmental offences and disputes.

In its application to the marine environment, the Act has several significant limitations. The Act's definition of environment covers land, air, and water including surface water, groundwater, the sea, and the sea bed, which is broad enough to encompass the marine environment. The Act's definition of pollution is also broad and could in principle encompass marine pollution. However, the Act does not contain specific provisions for the different sources of marine pollution identified in UNCLOS Part XII, does not reflect the specific legal standards of UNCLOS and MARPOL, and does not establish the specialized institutional mechanisms required for effective marine environmental governance.

The environmental clearance process under the Act, administered through the Environmental Impact Assessment Guidelines and the Environmental Management Plans required for industrial and development projects, does not contain provisions specifically tailored to the assessment of offshore or coastal marine impacts. The existing guidelines are primarily oriented toward land-based industrial activities and do not adequately address the specific assessment requirements for

offshore drilling, undersea pipeline construction, marine aquaculture operations, or coastal development in sensitive habitats like mangrove forests and coral reefs.

The Environmental Court system, while a significant institutional innovation, has not been particularly effective in addressing marine environmental violations. The courts handle individual enforcement cases but are not well-equipped to address the systemic pollution and habitat degradation issues that characterize Bangladesh's marine environmental crisis. The courts' reliance on the existing legislative framework, which as noted above does not adequately define marine pollution or establish clear standards for marine environmental quality, limits their ability to provide meaningful environmental protection.

6.3 The Marine Fisheries Ordinance of 1983: Outdated, Inadequate, and Due for Radical Reform

The Marine Fisheries Ordinance of 1983 remains, despite numerous amendments, the principal legal instrument governing marine fisheries in Bangladesh's maritime zones. It was enacted at a time when the scientific understanding of fisheries ecology was significantly less developed than it is today, before the adoption of the FAO Code of Conduct for Responsible Fisheries in 1995, before the development of the ecosystem-based approach to fisheries management, and before the recognition of the scale and severity of IUU fishing as a global environmental and governance challenge.

The Ordinance establishes a licensing system for fishing in Bangladesh's EEZ, provides for the protection of certain fishery resources through gear regulations and closed seasons, and grants enforcement powers to the fisheries administration and the Coast Guard. These provisions are broadly consistent with UNCLOS Article 61's requirement that the coastal state determine the allowable catch of living resources in its EEZ and take measures to ensure the maintenance of stocks at levels that can produce maximum sustainable yield. However, the implementation of these provisions in practice falls significantly short of what effective fisheries management requires.

The Ordinance does not establish a system of total allowable catches or individual quotas, which are the standard management tools of modern fisheries governance. It does not require stock assessments as a precondition for the determination of fishing effort limits. It does not incorporate the ecosystem-based approach to fisheries management, which requires the management of fisheries in the context of their broader ecological relationships rather than as individual single-species issues. It does not adequately address the management of highly migratory species like tuna, which move through Bangladesh's EEZ and adjacent waters and require regional cooperation in their management under UNCLOS Article 64. And it does not contain provisions for the accreditation and monitoring of fish market chains to prevent the laundering of IUU catches through legal market channels.

The case for a comprehensive new Marine Fisheries Act to replace the 1983 Ordinance is overwhelming. Such an Act should incorporate the following key elements: a statutory basis for the preparation of fisheries management plans for all major commercial species; a total allowable catch system with transferable fishing licences as the primary mechanism for controlling fishing

effort; compulsory vessel monitoring system coverage for all commercial fishing vessels; mandatory reporting of catches by vessel, species, and area; effective sanctions for IUU fishing calibrated to the scale of the offence and genuinely deterrent in their effect; provisions for the management of highly migratory species in cooperation with neighboring states through BIMSTEC and other regional frameworks; and a statutory basis for the government's 65-day seasonal fishing ban, which currently rests on executive orders rather than primary legislation and is therefore vulnerable to legal challenge.

6.4 The Merchant Shipping Ordinance and MARPOL Implementation

The Merchant Shipping Ordinance of 1983, as amended, is the primary domestic legal instrument implementing Bangladesh's obligations under the international maritime conventions administered by the IMO, including MARPOL. The Ordinance deals primarily with the registration and safety of ships, the qualifications and certification of seafarers, and the investigation of marine casualties, with provisions on pollution prevention appended rather than forming an integral part of the legislative design.

The Ordinance's pollution prevention provisions require ships registered in Bangladesh to comply with MARPOL standards and require Bangladesh to exercise port state control functions in respect of foreign vessels calling at its ports, including inspection for MARPOL compliance. However, the capacity of Bangladesh's port state control administration to conduct effective MARPOL inspections is limited, and the port reception facilities for ship-generated wastes required by MARPOL at Bangladesh's major ports are inadequate. The port of Chittagong, through which the vast majority of Bangladesh's maritime trade passes, does not have adequate reception facilities for oily wastes, sewage, garbage, or other MARPOL-regulated wastes from vessels, which means that vessels calling at Chittagong have no practical alternative to illegal discharge at sea.

The implementation of MARPOL Annex VI, which regulates air pollution from ships, is a particular gap in Bangladesh's domestic legal framework. Annex VI, which Bangladesh has not formally accepted, regulates emissions of nitrogen oxides, sulphur oxides, and particulate matter from ship engines, and it also regulates the energy efficiency of ships under the Energy Efficiency Design Index and Ship Energy Efficiency Management Plan requirements. The shipping sector's contribution to air pollution and to greenhouse gas emissions, as now confirmed to constitute marine pollution under the 2024 ITLOS Advisory Opinion, requires Bangladesh to implement Annex VI as part of its UNCLOS due diligence obligations.

6.5 The 2021 Amendment: What It Did and Did Not Achieve for the Marine Environment

The Territorial Waters and Maritime Zones (Amendment) Act of 2021 was discussed extensively in Part One of this commentary as the primary domestic legislation implementing Bangladesh's UNCLOS obligations. In the marine environmental context, the 2021 Amendment represented a significant advance in the formal acknowledgment of Bangladesh's marine environmental obligations but fell far short of the comprehensive legislative reform that those obligations demand.

The 2021 Amendment includes provisions affirming Bangladesh's right to protect and preserve the marine environment in its territorial sea, EEZ, and continental shelf, consistent with UNCLOS Part XII. It empowers Bangladesh's authorities to take measures to prevent, reduce, and control marine pollution from various sources. And it provides a legal basis for the regulation of marine scientific research in Bangladesh's maritime zones in accordance with UNCLOS Part XIII. These are important additions to the legislative framework, but they are framework provisions that require substantial supplementary legislation and institutional capacity to give them practical effect.

What the 2021 Amendment did not achieve is equally significant. It did not define marine pollution in domestic law. It did not establish specific pollution prevention standards for any source of marine pollution. It did not create specialized marine environmental enforcement mechanisms or institutional structures. It did not address climate change as a source of marine pollution. It did not provide a basis for the establishment of marine protected areas or for marine spatial planning. And it did not address the specific compliance gaps identified above in relation to MARPOL, the London Protocol, the Hong Kong Convention, and other relevant international instruments.

The conclusion that must be drawn from this assessment is that the 2021 Amendment, while welcome, was insufficient and that a comprehensive Marine Environmental Protection Act for Bangladesh is urgently needed. The proposed Act should cover all sources of marine pollution identified in UNCLOS Part XII, should establish specific environmental quality standards and discharge limits consistent with international best practice, should create a specialized regulatory authority for marine environmental governance, should provide for the establishment of marine protected areas and the implementation of marine spatial planning, and should incorporate the climate obligations confirmed by the 2024 ITLOS and 2025 ICJ Advisory Opinions.

CHAPTER 7: THE SUNDARBANS AS A LEGAL AND PHILOSOPHICAL PROBLEM

7.1 The Sundarbans: Ecological Significance and Legal Complexity

The Sundarbans, the world's largest mangrove forest, straddling the border between Bangladesh and the Indian state of West Bengal, is simultaneously one of the world's most ecologically significant and one of the most legally complex natural environments. Spanning approximately 10,000 square kilometres in total, with approximately 6,017 square kilometres in Bangladesh and approximately 4,263 square kilometres in India, the Sundarbans is designated as a UNESCO World Heritage Site in both countries, a Ramsar wetland of international importance, a UNESCO Biosphere Reserve, and a critical habitat for the Royal Bengal tiger, the Gangetic dolphin, the estuarine crocodile, and hundreds of other species.

The ecological significance of the Sundarbans to Bangladesh's maritime environment is difficult to overstate. The mangrove forests of the Sundarbans serve as nursery habitat for juvenile marine fish, including many commercially important species whose adult populations support Bangladesh's marine fisheries. They protect the coast from the storm surges associated with Bay

of Bengal cyclones, providing a natural barrier that has repeatedly saved lives and reduced the devastation of cyclonic events. They sequester carbon at extraordinarily high rates, both in their living biomass and in the carbon-rich sediments that accumulate beneath them, making them one of the most important blue carbon ecosystems in the world. And they support the livelihoods of millions of people in the coastal areas of Bangladesh and India, including fisherfolk, honey gatherers, woodcutters, and farmers.

The legal governance of the Sundarbans in Bangladesh is complex and fragmented. The forest is managed primarily under the Bangladesh Forest Department under the Forest Act of 1927, the Wildlife Conservation and Security Act of 2012, and the Protected Area Management Guidelines. The marine dimensions of the Sundarbans, including the tidal creeks and estuaries that form the interface between the forest and the Bay of Bengal, fall within the jurisdiction of the Department of Marine Fisheries and are subject to the Marine Fisheries Ordinance. The UNESCO World Heritage site obligations, which require Bangladesh to ensure the outstanding universal value of the site is protected and that adequate management measures are in place, are administered through the Ministry of Environment, Forest and Climate Change. And the bilateral aspects of Sundarbans governance, including cooperation with India under the Joint Working Group on Environmental Cooperation and through UNESCO's World Heritage Committee, add an international dimension that intersects with Bangladesh's UNCLOS obligations.

This governance fragmentation is not merely administratively inconvenient; it creates serious environmental protection gaps. There is no single authority with the responsibility and authority to manage the Sundarbans ecosystem as an integrated whole, taking account of the interactions between terrestrial, freshwater, and marine components of the ecosystem and the trade-offs between different uses and users. Development decisions that affect the Sundarbans, including the construction of the Rampal coal power plant near the forest boundary, the expansion of industrial activities in the Khulna-Mongla corridor, and the development of tourism and aquaculture in the coastal zone, are made without comprehensive ecological assessment of their cumulative impacts on the ecosystem as a whole.

7.2 Climate Change and the Sundarbans: The Legal Implications of Sea-Level Rise

Climate change poses an existential threat to the Sundarbans that is of direct and urgent legal relevance. Sea-level rise driven by anthropogenic greenhouse gas emissions is submerging coastal land, eroding mangrove habitat, increasing the frequency and intensity of cyclonic storm surges, and altering the salinity and hydrology of the tidal creek system. The IPCC's projections suggest that under a high emissions scenario, sea-level rise of between 0.6 and 1.0 metres by 2100, combined with increased cyclone intensity, could devastate a large proportion of the Sundarbans mangrove ecosystem by the end of the century.

The legal implications of this threat operate at multiple levels. At the international level, as the 2024 ITLOS Advisory Opinion confirmed, the marine pollution caused by greenhouse gas emissions, which includes the sea-level rise and ocean warming that threaten the Sundarbans, gives rise to the due diligence obligations of state parties. Bangladesh has a legitimate legal basis, grounded in the Advisory Opinion, for invoking the obligations of major emitting states in

international fora and for demanding the accelerated implementation of emissions reductions consistent with the 1.5-degree Celsius goal of the Paris Agreement.

At the domestic level, the legal framework for the protection of the Sundarbans from climate change impacts is inadequate. Bangladesh's climate adaptation policies, including the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and the National Adaptation Programme of Action (NAPA), address coastal zone adaptation in general terms but do not establish specific legal frameworks for the protection of the Sundarbans from sea-level rise and storm surge intensification. A dedicated Sundarbans Protection Act, integrating the ecological governance of the forest under a single legal framework, establishing a comprehensive management authority, and incorporating climate change adaptation planning as a core function of that authority, is an essential element of Bangladesh's environmental law reform agenda.

7.3 The Rights of the Sundarbans: Toward an Ecological Jurisprudence for Bangladesh

The question of whether the Sundarbans should be recognized as having legal rights or standing in Bangladeshi law is one that the philosophical framework developed earlier in this chapter compels us to take seriously. The arguments for recognition of natural rights, drawn from earth jurisprudence and from the precedents of New Zealand's Whanganui River Act, Ecuador's constitutional rights of nature, and India's judicial experiments with natural legal personality, apply to the Sundarbans with particular force.

The Sundarbans is not merely a resource; it is an ecosystem, a community of life, a regulatory mechanism for the regional climate, and a cultural heritage site of extraordinary significance. Its degradation is a harm to all who depend on it, human and non-human alike. The current legal framework treats the Sundarbans primarily as a state-owned forest resource and a protected area under national park regulations, with the state as the primary legal subject with rights and obligations in relation to the forest. Recognizing the Sundarbans itself as a legal subject, with rights to be protected and enforced by designated guardians, would transform the legal character of governance from a framework of state discretionary management to a framework of fiduciary obligation toward a living entity.

This proposal may appear radical by the standards of conventional international and domestic law. But the precedents for it exist and are growing. The High Court of Uttarakhand in India, in Mohd. Salim v. State of Uttarakhand (2017), recognized the Ganges and Yamuna rivers as legal persons with the status of living entities. The New Zealand Parliament, in the Te Awa Tupua Act of 2017, granted legal personhood to the Whanganui River and established a guardianship structure to represent its interests in legal proceedings. The Supreme Court of Colombia, in a landmark 2018 decision on the Colombian Amazon, recognized the Amazon as a subject of rights, with future generations and indigenous communities as its guardians. Bangladesh could be the next jurisdiction to extend this jurisprudential development to a specific ecosystem, and the Sundarbans, as both a World Heritage Site and a critically threatened ecosystem with immense cultural, ecological, and economic significance, would be an appropriate and compelling candidate.

At a minimum, the legal framework for the Sundarbans should incorporate a guardian structure similar to that used in New Zealand and Colombia, establishing appointed guardians, including representatives of local fishing and forest-dependent communities, environmental scientists, and government officials, who have standing to represent the interests of the Sundarbans ecosystem in administrative and judicial proceedings, to challenge development decisions that threaten its ecological integrity, and to advocate for its protection in domestic and international policy processes.

CHAPTER 8: CLIMATE CHANGE, SEA-LEVEL RISE, AND THE LEGAL STATUS OF MARITIME TERRITORY

8.1 The Problem of Disappearing Land: Legal Theory and Practical Challenge

The intersection of climate change, sea-level rise, and the law of the sea raises some of the most challenging and philosophically profound questions in contemporary international law. For Bangladesh, which has already lost a significant coastal island to sea-level rise, as demonstrated by the submergence of South Talpatty Island around 2010, and which faces the prospect of substantial further coastal land loss as sea levels continue to rise, these questions are not merely theoretical. They are questions of immediate national interest that require legal answers.

UNCLOS establishes the baseline as the fundamental reference line from which all maritime zones are measured, and it specifies that the baseline is normally the low-water line along the coast. This apparently simple provision conceals a profound and increasingly urgent legal problem: what happens to the baseline, and therefore to the extent of maritime zones, when the low-water line shifts seaward due to accretion, or landward due to erosion and sea-level rise? Traditional international law, which developed in a period when sea-level rise was not a significant phenomenon, provides no clear answer to this question.

Two opposing views have been advanced in the legal scholarship and in the practice of states facing sea-level rise. The first view, which might be called the ambulatory baseline theory, holds that baselines shift as the physical coastline changes, so that as coastal land is inundated by rising seas, the baseline retreats landward and the extent of maritime zones shrinks accordingly. This view reflects the ordinary meaning of the UNCLOS provision that the baseline is the low-water line, and it would result in significant losses of maritime territory for low-lying coastal states like Bangladesh as sea levels rise. The second view, which might be called the fixed baseline or freezing theory, holds that once baselines have been established and deposited with the UN Secretary-General as required by UNCLOS, they remain fixed notwithstanding subsequent changes in the physical coastline. This view is supported by some state practice and by the practical and equitable arguments that coastal states should not lose their maritime entitlements due to global processes for which they bear minimal responsibility.

The International Law Commission has been engaged in a study of sea-level rise and international law since 2019, and its Work has been continuing through the period covered by this commentary. The ILC's preliminary conclusions have been cautious, acknowledging the

complexity of the issue and the diversity of state positions. The Commission has suggested that there are good legal and policy arguments for some form of baseline stability for low-lying coastal states threatened by sea-level rise, but it has not yet reached a definitive recommendation.

8.2 Bangladesh's Specific Situation: The St. Martin's Island Question and the Future of Baselines

Bangladesh's specific baseline situation is complicated by the dynamic character of its deltaic coast, as described in earlier parts of this commentary. The implications of sea-level rise for Bangladesh's baselines and maritime zones are potentially severe. If the ambulatory baseline theory applies, and if sea-level rise of the magnitude projected by the IPCC materializes over the coming decades, Bangladesh could face significant reductions in the extent of its territorial sea and EEZ beyond what was delimited in the ITLOS and PCA proceedings of 2012 and 2014.

The situation of St. Martin's Island, the small coral island off the southeast coast of Bangladesh near the Myanmar border, is of particular concern. St. Martin's Island, with an area of approximately 8.0 square kilometres, is the only true coral island in Bangladesh, and it played a significant role in the ITLOS proceedings against Myanmar, which declined to give it full effect as a basepoint for the equidistance line but acknowledged its status as an island entitled to a territorial sea under UNCLOS Article 121. Sea-level rise poses a direct threat to the island's above-water status, and if the island were to become permanently submerged or to be reduced to a rock that cannot sustain human habitation or economic life, its legal status under UNCLOS and its role in defining Bangladesh's maritime zones would change dramatically.

Bangladesh should adopt a clear and consistent legal position on the baseline stability question as part of its international maritime law advocacy. The position that baselines established in accordance with UNCLOS, and deposited with the Secretary-General, should not be automatically revised downward in response to sea-level rise attributable to the greenhouse gas emissions of other states, is supported by principles of equity, by the ITLOS Advisory Opinion's recognition of the legal responsibilities of emitting states for climate-change-related harms, and by the practical necessity of providing legal certainty for maritime governance planning. Bangladesh should pursue this position actively through the ILC process, through the General Assembly, and through BIMSTEC and other regional frameworks.

The domestic legal framework should be amended to include a provision specifying that the baselines and maritime zones established under the Territorial Waters and Maritime Zones Act, as confirmed in the ITLOS and PCA proceedings, remain in force notwithstanding changes to the physical coastline attributable to sea-level rise caused by anthropogenic greenhouse gas emissions. Such a provision would be consistent with the emerging international law position on baseline stability and would provide legal certainty for maritime governance planning in the face of ongoing climate change.

8.3 Loss and Damage: The International Legal Framework and Bangladesh's Claims

The concept of loss and damage in the international climate change context refers to the adverse impacts of climate change that cannot be avoided through mitigation or adapted to through

adaptation, and the legal and policy frameworks for addressing the costs of those impacts on vulnerable states and communities. The establishment of a Loss and Damage Fund at COP27 in Sharm el-Sheikh in 2022 and the operationalization of that fund at COP28 in Dubai in 2023 represent significant advances in the international political recognition of loss and damage as a category requiring specific financial attention. However, the fund as established remains woefully underfunded relative to the scale of the needs it is supposed to address.

The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion have added a dimension of legal obligation to the political discourse on loss and damage. By confirming that greenhouse gas emissions constitute marine pollution and that emitting states have due diligence obligations under UNCLOS, the Advisory Opinions create a framework within which claims for compensation for loss and damage from marine pollution, including sea-level rise, coastal erosion, and fisheries degradation, may be brought against major emitting states in international legal proceedings.

Bangladesh, as one of the countries most severely affected by climate-change-related loss and damage, including the loss of South Talpatty Island, the progressive erosion of coastal land in the Sundarbans and elsewhere, the degradation of marine fisheries, and the intensification of cyclonic damage, has a compelling legal basis for invoking the obligations of major emitting states under the UNCLOS framework confirmed by the Advisory Opinions. The practical challenges of translating advisory opinion holdings into enforceable claims for compensation are significant, but they are not insuperable, and the combination of moral authority and legal argumentation available to Bangladesh in this context is formidable.

CHAPTER 9: DEEP SEABED MINING AND THE COMMON HERITAGE PRINCIPLE: BANGLADESH'S INTERESTS AND OBLIGATIONS

9.1 The Area and the Common Heritage of Mankind: Philosophical Content and Legal Architecture

Part XI of UNCLOS, as modified by the 1994 Implementation Agreement, establishes the legal regime for the seabed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, referred to as the Area. The fundamental principle governing the Area, as articulated in Article 136 of UNCLOS, is that the Area and its resources are the common heritage of mankind. This principle, as discussed in Part One of this commentary in relation to the contribution of Arvid Pardo, is one of the most philosophically significant innovations of UNCLOS and one of its most contested provisions in current international legal practice.

The philosophical content of the common heritage of mankind principle has been analyzed by a number of legal scholars, including Eduardo Jimenez de Arechaga, who argued that the principle represents the emergence of a third category of legal relationship, distinct from both private property and state sovereignty, in which resources are governed for the benefit of all humanity rather than for the benefit of individual states or private parties. Yoshifumi Tanaka, in his comprehensive commentary on UNCLOS, has argued that the principle embodies three core

elements: the non-appropriation of the Area and its resources by any state or private entity; the sharing of benefits from the exploitation of resources among all states, with special consideration for developing states; and the peaceful use of the Area for the benefit of mankind as a whole.

The practical implementation of the common heritage principle through the International Seabed Authority (ISA), established by UNCLOS to organize and control activities in the Area, has been deeply controversial and is at a critical juncture at the present time. The ISA has approved a number of exploration contracts for polymetallic nodules, polymetallic sulfides, and cobalt-rich ferromanganese crusts in the Area, and it has been engaged in the negotiation of a Mining Code that would regulate the exploitation of these resources. The commencement of commercial deep-sea mining in the Area, which several private companies and sponsoring states were pursuing aggressively in 2024-2025, raises profound environmental concerns about the impact of seabed disturbance on deep-sea ecosystems that are poorly understood and potentially irreplaceable.

The 2011 ITLOS Advisory Opinion on the Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, delivered by the Seabed Disputes Chamber, established important principles governing the environmental obligations of sponsoring states, including the precautionary approach, the obligation to use best environmental practices, and the due diligence standard applicable to the sponsorship of deep-sea mining activities. These principles were elaborated and confirmed in the 2024 Advisory Opinion on climate change, which applied a similar due diligence framework to greenhouse gas emissions. Together, the two Advisory Opinions establish a coherent and demanding standard of environmental due diligence that must inform the governance of all activities in the global ocean commons.

9.2 Bangladesh's Relationship to the Area: Rights, Obligations, and Potential Benefits

Bangladesh, as a state party to UNCLOS, has both rights and obligations in relation to the Area and the common heritage of mankind. The rights include the right to participate in the governance of the Area through the ISA's Council and Assembly, the right to benefit from the sharing of financial and other economic benefits derived from activities in the Area, the right to technical and scientific capacity building to enable developing states to participate in activities in the Area, and the right of preferential access to the Area's resources for developing landlocked states, a category that Bangladesh does not fall into but which is relevant to the governance of the regional commons.

Bangladesh's obligations in relation to the Area include the duty not to claim or exercise sovereignty over any part of the Area, the duty not to appropriate the Area's resources in ways inconsistent with the common heritage principle, and the duty to support the effective functioning of the ISA and the implementation of the Mining Code. Bangladesh is also a potential sponsoring state for entities engaged in activities in the Area, which would create additional responsibilities under the due diligence framework established by the 2011 Advisory Opinion.

Bangladesh's practical engagement with Area governance has been limited by lack of institutional capacity and by the dominance of the ISA by technologically advanced states and

the private entities they sponsor. This pattern of dominance reflects the broader structural inequities in the international maritime governance system identified by TWAIL scholars and represents a continuing challenge for the effective implementation of the common heritage principle. Bangladesh's voice in ISA processes and in the developing Mining Code negotiations would be strengthened by investment in marine scientific and legal capacity, by coordinated advocacy with other developing coastal states through the BIMSTEC framework, and by active engagement with the G-77 bloc in international maritime governance fora.

9.3 Deep Seabed Mining and Environmental Concerns: The Moratorium Debate

One of the most significant current controversies in international maritime governance is the debate about whether a precautionary moratorium on deep-sea mining should be imposed pending further scientific assessment of the environmental impacts. Several states, including Germany, France, New Zealand, and a growing number of Pacific island states, have called for a moratorium or precautionary pause in deep-sea mining operations to allow time for scientific assessment of the risks to deep-sea ecosystems. The commercial mining companies and their sponsoring states, primarily small Pacific island nations motivated by the prospect of sponsorship revenues, have resisted this call.

The environmental case for a moratorium is compelling. Deep-sea ecosystems, including the hydrothermal vent communities, cold-water coral reefs, and seamount habitats of the Area, are among the least understood and most ecologically sensitive environments on Earth. They support extraordinary biodiversity, including many species not found elsewhere, and they play important roles in global biogeochemical cycling, including the cycling of carbon, nitrogen, and trace metals. The physical disturbance of seabed sediments by mining equipment would generate vast plumes of suspended particles that could smother filter-feeding organisms over large areas, while the removal of polymetallic nodules would destroy the substrate on which many deep-sea organisms depend. Recovery from such disturbance, if possible at all, would take decades to centuries.

For Bangladesh, the deep-sea mining moratorium debate is relevant both as a matter of UNCLOS governance and as a matter of environmental principle. Bangladesh's advocacy for the precautionary approach in the governance of Area resources would be consistent with its broader environmental commitments and with the due diligence framework established by the ITLOS Advisory Opinions. It would also align Bangladesh with the growing coalition of states and civil society organizations calling for more precautionary governance of the global ocean commons.

CHAPTER 10: OCEAN POLLUTION AND HUMAN RIGHTS: THE EMERGING NEXUS

10.1 The Human Right to a Healthy Environment and Its Maritime Dimensions

The recognition of the human right to a healthy environment as a universal human right was confirmed by the UN General Assembly Resolution 76/300 of July 2022, which acknowledged,

for the first time in a UN General Assembly resolution, that access to a clean, healthy and sustainable environment is a human right. This resolution builds on the recognition of the right to a healthy environment in regional human rights instruments, including the African Charter on Human and Peoples' Rights, the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, and the Aarhus Convention in the European context, and on the jurisprudence of the UN treaty bodies, which had progressively interpreted existing human rights obligations to encompass environmental dimensions.

The 2025 Inter-American Court of Human Rights Advisory Opinion on the Climate Emergency and Human Rights, delivered in July 2025, elaborated the relationship between climate change, environmental rights, and human rights in particularly rich detail. The Court confirmed that states have human rights obligations to protect their populations from the effects of climate change, including the effects on food security, livelihoods, and cultural survival that are directly connected to the health of marine ecosystems. The Court also confirmed that vulnerable groups, including indigenous and tribal peoples, coastal fishing communities, and future generations, have specific human rights claims in the climate context that must be taken into account in both domestic governance and international negotiations.

For Bangladesh, the human right to a healthy environment has direct and immediate relevance to the governance of the marine environment. The millions of coastal Bangladeshis whose livelihoods, food security, and physical safety depend on the health of the Bay of Bengal have a human right to the protection of that marine environment. The progressive degradation of the Bay through pollution, overfishing, climate change, and habitat destruction violates that right, and the legal framework must be designed to protect and progressively realize it.

10.2 The Rights of Coastal Fishing Communities: International Standards and Domestic Gaps

The international recognition of the rights of small-scale fisherfolk is reflected in the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication of 2015, which provide a comprehensive framework for the governance of small-scale fisheries that incorporates human rights principles, including the right to food, the right to work, the right to social security, the right to a healthy environment, and the rights of women and marginalized groups. While voluntary in character, the SSF Guidelines reflect an emerging international consensus on the minimum standards of governance that states should apply in their fisheries management, and they are increasingly cited as a benchmark in academic scholarship, judicial decisions, and policy advocacy.

Bangladesh's coastal fishing communities face a wide range of governance failures that constitute, under the human rights framework, violations of their rights as fisherfolk and as citizens. The progressive depletion of fish stocks through overfishing and environmental degradation reduces their income and food security. The competition from industrial trawlers, which are often better resourced and politically connected, displaces small-scale artisanal fishers from their traditional fishing grounds. The absence of effective enforcement of seasonal fishing bans against IUU foreign fishing vessels means that the conservation costs of the ban fall primarily on domestic small-scale fishers while the benefits are captured by violating foreign

fleets. And the lack of legal recognition of traditional fishing rights in coastal and inshore waters leaves fishing communities without legal protection against displacement by development projects.

The reform of Bangladesh's fisheries governance framework should incorporate the human rights framework of the SSF Guidelines as a central organizing principle. This means establishing formal legal recognition of the customary fishing rights of coastal communities in inshore waters; ensuring meaningful participation of fishing community representatives in the governance processes that determine fishing regulations, seasonal closures, and access allocations; providing adequate social protection for fishing communities during seasonal closures and periods of reduced fishing opportunity due to conservation measures; and ensuring that the benefits of the blue economy, including hydrocarbon revenues and revenues from offshore renewable energy, are shared in ways that benefit coastal fishing communities rather than simply flowing to national and corporate treasuries.

10.3 Gender, Human Rights, and Marine Environmental Governance

Women's rights and gender equality are dimensions of maritime governance that have received insufficient attention in both international and domestic legal frameworks. In Bangladesh's coastal fishing communities, women perform essential functions in the fish processing and marketing sectors, provide the primary household management and childcare responsibilities that enable male fisherfolk to spend extended periods at sea, and maintain the social networks that provide resilience in the face of fishing cycles, cyclones, and other disruptions. Yet women are almost entirely absent from the formal governance structures of the maritime sector, from the licensing and regulatory systems, from the management bodies of fisheries cooperatives, and from the policy-making processes of the Ministry of Fisheries and Livestock and the Department of Marine Fisheries.

The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), to which Bangladesh is a state party, creates legal obligations to ensure that women have equal access to employment, economic opportunities, and participation in decision-making in all sectors, including the maritime sector. The SSF Guidelines specifically call for the recognition and guarantee of women's rights in small-scale fisheries governance, including rights of access to fishing grounds, rights of participation in fisheries governance, and rights of equal economic benefit from fisheries resources. Bangladesh's domestic fisheries law does not adequately reflect these obligations.

A gender-responsive reform of Bangladesh's maritime governance framework should include, at a minimum: mandatory female representation in the governance bodies of the Marine Fisheries Ordinance; recognition of women's roles in fish processing and marketing as integral parts of the fisheries value chain entitled to regulatory protection and economic support; gender-disaggregated data collection in all fisheries monitoring and assessment; and gender impact assessment as a required component of all blue economy development projects that affect coastal communities.

CHAPTER 11: MARINE POLLUTION LIABILITY: INTERNATIONAL FRAMEWORKS AND DOMESTIC INADEQUACY

11.1 The International Civil Liability Framework for Oil Pollution

The international legal framework for liability and compensation for oil pollution damage at sea is one of the most developed areas of international environmental law. It consists primarily of the International Convention on Civil Liability for Oil Pollution Damage (CLC) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund Convention), together with the 2001 Bunkers Convention on civil liability for bunker oil pollution damage and the Hazardous and Noxious Substances Convention (HNS Convention) for damage from the carriage of hazardous and noxious substances by sea.

The CLC and Fund Convention system, in its current 1992 Protocol versions, provides a framework of strict liability for oil spills from tankers, under which the shipowner bears liability regardless of fault up to specified limits per incident, with additional compensation available from the International Oil Pollution Compensation Funds when the owner's liability is insufficient to cover the full cost of the damage. The system is administered by the IOPC Funds and has handled several hundred claims from oil spill incidents around the world, providing substantial compensation to affected states and coastal communities.

Bangladesh has ratified the 1969 CLC and the 1971 Fund Convention but has not acceded to the current 1992 Protocol versions, which provide significantly higher levels of compensation. The 1992 Protocols are the operative versions of the CLC and Fund Convention, and Bangladesh's continued adherence to the superseded 1969/1971 versions creates a significant gap in its oil pollution liability regime. In the event of a major oil spill in Bangladesh's territorial sea or EEZ from a foreign tanker, the compensation available under the 1969/1971 system would be substantially less than what would be available under the current 1992 system. Bangladesh should accede to the 1992 CLC and Fund Convention Protocols as a matter of urgency.

The 2001 Bunkers Convention, which extends strict liability to oil spills from the operational fuel of ships other than tankers, has been ratified by a large number of states but not, as of the time of this commentary's writing, by Bangladesh. Given the volume of shipping traffic in Bangladesh's waters, including the port of Chittagong, the accession to the Bunkers Convention would strengthen the legal framework for compensation from oil spills from non-tanker vessels, which constitute a significant proportion of vessel-source pollution incidents globally.

11.2 Liability for Climate-Change-Related Marine Harm: The Post-Advisory Opinion Landscape

The ITLOS Advisory Opinion of 2024, by confirming that greenhouse gas emissions constitute marine pollution under UNCLOS, has opened the theoretical possibility of international legal claims for compensation for climate-change-related marine harm against major emitting states. The 2025 ICJ Advisory Opinion reinforced this possibility by addressing state responsibility for climate change obligations under general international law, including the availability of remedies including full reparation for harm caused by internationally wrongful acts.

The practical realization of these theoretical possibilities through specific legal claims faces formidable challenges. The attribution of specific marine harms to specific emitting states' greenhouse gas emissions requires the application of climate science and attribution science to specific factual situations, which is technically complex and contested. The identification of which states bear legal responsibility and in what proportions, given the cumulative and collective character of greenhouse gas emissions from multiple sources over many decades, is a further major challenge. And the enforcement of any judgment or award against a major emitting state, given the limitations of international legal enforcement mechanisms, would be politically and practically difficult.

Nevertheless, the Advisory Opinion creates a legal landscape in which climate change litigation between states under the UNCLOS framework is legally conceivable in a way that it was not before 2024. Bangladesh, as a victim state with documented climate-change-related marine harm including the loss of South Talpatty Island, the degradation of marine fisheries, and the threat to the Sundarbans, is among the states with the strongest legal standing to bring such claims. Whether and how to pursue such claims is a strategic question for Bangladesh's legal and diplomatic establishment, one that requires careful analysis of the legal merits, the political costs and benefits, and the prospects for enforcement or political settlement.

CHAPTER 12: TOWARD A COMPREHENSIVE MARINE ENVIRONMENTAL PROTECTION ACT FOR BANGLADESH

12.1 The Case for a New Comprehensive Statute

The analysis presented in this Part demonstrates that Bangladesh's existing marine environmental legislation is, taken as a whole, inadequate to fulfill the nation's international legal obligations under UNCLOS Part XII, MARPOL, the CBD, the BBNJ Agreement, and the emerging climate obligations confirmed by the 2024 ITLOS and 2025 ICJ Advisory Opinions. The incremental patching of the existing legislative framework through amendments to individual statutes, as has been the practice to date, cannot produce the coherent and comprehensive governance regime that the marine environment requires. What is needed is a new comprehensive Marine Environmental Protection Act that establishes a unified legal framework for the governance of all aspects of Bangladesh's marine environmental obligations.

The philosophical and jurisprudential foundation of such an Act should be grounded in the principles discussed throughout this Part. It should incorporate the precautionary principle as a binding legal standard for all decisions affecting the marine environment. It should reflect the principles of intergenerational equity, requiring that marine resources be managed in ways that maintain their productivity and ecological integrity for future generations. It should embody the public trust doctrine, recognizing that the state holds Bangladesh's marine resources in trust for the people of Bangladesh and owes fiduciary duties in their management. It should incorporate the human rights framework, recognizing the rights of coastal communities, including women and marginalized groups, to participate in marine governance and to benefit equitably from marine resources. And it should reflect the climate obligations confirmed by the Advisory

Opinions, establishing domestic legal mechanisms for the implementation of Bangladesh's due diligence duties under UNCLOS in the climate change context.

The substantive content of the proposed Marine Environmental Protection Act should be organized around five major elements. First, it should establish a unified national framework for the prevention of marine pollution from all sources identified in UNCLOS Part XII, including land-based sources, seabed activities, dumping, vessel-source pollution, and atmospheric pollution including greenhouse gas emissions. Second, it should establish a comprehensive marine spatial planning framework, providing a legal basis for the designation of marine protected areas, marine spatial plans, and area-based management tools consistent with the BBNJ Agreement. Third, it should establish a robust marine environmental impact assessment framework, requiring EIA for all significant maritime development activities and establishing minimum standards for EIA content, process, and public participation. Fourth, it should establish a dedicated marine environmental enforcement authority with adequate powers, resources, and independence to effectively enforce the Act and Bangladesh's international marine environmental obligations. Fifth, it should incorporate the principle of environmental justice, requiring that the benefits and burdens of marine environmental governance be distributed equitably among all affected communities, with specific attention to the rights of coastal fishing communities and women.

12.2 The Institutional Architecture: A Marine Environment Protection Authority

The effective implementation of a comprehensive Marine Environmental Protection Act requires a dedicated institutional architecture that does not currently exist in Bangladesh. The current governance of the marine environment is distributed among the Department of Environment, the Department of Marine Fisheries, the Department of Shipping, the Bangladesh Coast Guard, the Bangladesh Oil, Gas and Mineral Corporation, the Forest Department, and several other agencies, without effective coordination or integration.

The proposal for a Marine Environment Protection Authority, which builds on suggestions that have been advanced in the academic literature and in policy advocacy, would create a single dedicated agency with comprehensive responsibility for the protection and preservation of Bangladesh's marine environment. Such an authority would need to be technically competent, with staff expertise in oceanography, marine biology, marine engineering, environmental law, and related disciplines. It would need to be institutionally independent from the economic development agencies and ministries that it would be required to regulate. It would need to have adequate resources, including marine patrol vessels, environmental monitoring equipment, and laboratory facilities. And it would need to be accountable to parliament and to the public through transparency and public participation mechanisms.

The powers of the proposed Marine Environment Protection Authority should include: the authority to issue environmental permits and approvals for all significant maritime activities; the authority to set and enforce environmental quality standards and discharge limits for the marine environment; the authority to require environmental impact assessments and to review and approve EIA reports; the authority to designate marine protected areas and to develop and implement marine spatial plans; the authority to monitor the state of the marine environment and

to publish annual marine environment status reports; and the authority to initiate enforcement action, including civil and criminal proceedings, against violations of marine environmental law.

The relationship between the Marine Environment Protection Authority and other maritime governance bodies, including the Bangladesh Coast Guard, the Department of Marine Fisheries, the Department of Shipping, and the Bangladesh Oil, Gas and Mineral Corporation, would need to be carefully defined to avoid jurisdictional confusion while ensuring effective coordination. A statutory coordination mechanism, perhaps through an inter-agency Maritime Environmental Management Committee chaired by the Director-General of the Authority, should be established to ensure that the different dimensions of marine governance are effectively integrated.

12.3 Climate Change and Marine Environmental Governance: Specific Legislative Provisions

The domestic legal implementation of Bangladesh's climate obligations in the marine environmental context, as established by the 2024 ITLOS and 2025 ICJ Advisory Opinions, requires specific legislative provisions that go beyond the general framework of a Marine Environmental Protection Act. These provisions should include, at minimum, the following elements.

First, the Act should incorporate a statutory definition of marine pollution that explicitly encompasses the introduction of greenhouse gases into the atmosphere where this results or is likely to result in deleterious effects on the marine environment, consistent with the ITLOS Advisory Opinion's interpretation of Article 1(1)(4) of UNCLOS. This definitional provision would establish the legal basis for regulatory action on atmospheric sources of marine pollution, including the greenhouse gas emissions of the shipping sector, the shipbreaking industry, and other maritime activities.

Second, the Act should establish a statutory requirement for climate change impact assessment as a component of all marine environmental impact assessments under the Act. This requirement should specifically address the assessment of activities' contributions to cumulative greenhouse gas emissions, the assessment of marine environmental impacts of climate change on the affected area, and the assessment of how proposed activities interact with existing climate change vulnerabilities in the marine environment.

Third, the Act should empower the Marine Environment Protection Authority to develop a national marine climate adaptation plan, setting out the measures Bangladesh will take to adapt the governance of its marine environment to the projected impacts of climate change, including sea-level rise, ocean warming, acidification, and changes in storm intensity and frequency. Such a plan should be reviewed and updated at least every five years in light of evolving scientific knowledge.

Fourth, the Act should incorporate the principle of common but differentiated responsibilities and respective capabilities in its application to Bangladesh's climate obligations, recognizing both the obligation of all states to address greenhouse gas emissions and the special responsibilities of major emitting states for the harm they have caused to Bangladesh's marine

environment. This provision would provide a domestic legal foundation for Bangladesh's international advocacy on climate justice and loss and damage.

12.4 Marine Spatial Planning: The Legal Framework for Integrated Ocean Governance

Marine spatial planning is the process by which the spatial and temporal distribution of human activities in marine areas is managed to achieve ecological, economic, and social objectives. It provides a framework for the integrated governance of competing uses of the marine space, including fisheries, shipping, energy development, aquaculture, tourism, conservation, and military activities, in a way that promotes sustainable use while protecting ecological values.

The adoption of marine spatial planning as a governance tool in Bangladesh's EEZ and coastal waters is a major element of the blue economy development strategy, and its legal framework is addressed in the Blue Economy Development Work Plan. However, there is currently no domestic legislation providing a specific legal basis for marine spatial planning in Bangladesh, and this is a significant gap that the proposed Marine Environmental Protection Act should fill.

The legislative framework for marine spatial planning should establish: the legal basis for the preparation of marine spatial plans covering Bangladesh's maritime zones; the institutional responsibility for plan preparation, public consultation, approval, and implementation; the legal status of approved marine spatial plans and their binding effect on other regulatory decisions; the requirement for strategic environmental assessment of marine spatial plans before their adoption; the requirement for regular review and updating of plans in light of changing conditions and knowledge; and the coordination of marine spatial plans with adjacent land-use plans and with regional maritime governance frameworks under BIMSTEC and UNCLOS Article 123.

A marine spatial plan for Bangladesh's maritime zones would need to address, at a minimum: the designation of marine protected areas and their management objectives; the spatial allocation of different fishing gear types and methods to minimize conflict between artisanal and industrial fishing and to protect sensitive habitats from destructive fishing practices; the identification of areas suitable for offshore energy development, including both conventional hydrocarbons and renewable energy; the identification of areas suitable for aquaculture development and areas where aquaculture development would be incompatible with environmental or fisheries objectives; the identification of shipping lane designations and traffic separation schemes consistent with international maritime navigation requirements; and the identification of areas of special ecological significance, including the outer Sundarbans coastal zone, the coral habitats in the vicinity of St. Martin's Island, and any areas of deep-sea habitats that may be identified through marine scientific research.

CHAPTER 13: BIMSTEC, REGIONAL COOPERATION, AND THE GOVERNANCE OF A SHARED SEA

13.1 The Legal Framework for Regional Marine Environmental Cooperation

The Bay of Bengal, as a semi-enclosed sea under UNCLOS Article 122, presents both an opportunity and an imperative for regional environmental cooperation. The littoral states of the Bay, Bangladesh, India, Myanmar, Thailand, and Sri Lanka, share a common marine ecosystem whose health depends on collective governance that goes beyond what any individual state can achieve alone. The fish stocks that Bangladesh's fisheries management seeks to protect migrate through the waters of all these states. The pollutants that enter the Bay through Bangladesh's rivers are carried by currents and mixing processes into the waters of India, Myanmar, and Sri Lanka. The cyclones that devastate Bangladesh's coast originate in sea areas that are under the jurisdiction of multiple states. And the climate change impacts that threaten the Bay's ecological integrity are the product of global emissions that require global governance.

UNCLOS Article 123 creates an obligation for states bordering semi-enclosed seas to cooperate in the exercise of their rights and duties under the Convention, including cooperation on the management of living resources, on environmental protection, and on scientific research policy. As argued in Part One of this commentary, the Bay of Bengal meets the definition of a semi-enclosed sea, and the application of Article 123 to the Bay would create a framework of enhanced cooperation obligations among its littoral states.

The BIMSTEC framework, as discussed in earlier parts of this commentary and as developed through the sixth BIMSTEC Summit of 2025 and the BIMSTEC Agreement on Maritime Transport Cooperation, provides the institutional vehicle for regional maritime cooperation. The development of a dedicated BIMSTEC agreement on marine environmental cooperation, analogous to the existing AMTC but specifically focused on environmental protection, would give concrete form to the regional cooperation obligations under UNCLOS Article 123 and would create a mechanism for the coordinated governance of the Bay of Bengal's shared marine resources.

Such an agreement should address, as a minimum: the harmonization of marine pollution prevention standards among the littoral states; the establishment of a joint marine environmental monitoring network for the Bay of Bengal; the development of coordinated response plans for transboundary oil spills and other marine pollution emergencies; the cooperative management of shared fisheries stocks, particularly highly migratory species; the coordination of marine protected area designations and management across national boundaries; and the establishment of a platform for the sharing of marine scientific research data and capacity building support.

13.2 The Bay of Bengal Large Marine Ecosystem Project and Its Legal Relevance

The Bay of Bengal Large Marine Ecosystem (BOBLME) project, supported by the Global Environment Facility and implemented through the Food and Agriculture Organization and a partnership of Bay of Bengal littoral states, has been one of the primary vehicles for regional marine environmental cooperation in the Bay. The BOBLME project has conducted comprehensive assessments of the Bay's ecosystem health, developed ecosystem-based fisheries management plans for key species, supported the harmonization of national fisheries management regulations, and promoted community-based fisheries management approaches in coastal areas.

The BOBLME project's scientific assessments provide an invaluable evidence base for the legal governance of the Bay of Bengal's marine environment. The assessments document in detail the ecological condition of the Bay, the status of key fish stocks, the sources and impacts of marine pollution, and the effects of climate change on the ecosystem. This scientific evidence is directly relevant to the content of states' due diligence obligations under UNCLOS, as confirmed by the Advisory Opinion's emphasis on the obligation to apply best available science in assessing and addressing marine environmental harm.

Bangladesh should use the BOBLME project's outputs strategically in its domestic governance, in its bilateral and regional environmental diplomacy, and in its international legal advocacy. The project's documentation of the decline of fish stocks, the extent of marine pollution, and the impacts of climate change on the Bay provides a factual foundation for the arguments about due diligence obligations, loss and damage, and the urgency of environmental law reform that this commentary advances.

13.3 India-Bangladesh Marine Environmental Relations: Beyond the Grey Area

The bilateral marine environmental relationship between Bangladesh and India is complex, reflecting both shared interests in the health of the Bay of Bengal and specific tensions arising from the grey area problem identified in Part One, from the management of shared fisheries in boundary areas, and from the transboundary impacts of industrial pollution and river engineering in India on the marine environment of Bangladesh.

The grey area problem, as noted in Part One, creates a situation in which Bangladesh has continental shelf rights in the seabed of a specific area of the Bay but India has EEZ rights in the superjacent water column. This creates complex governance challenges for environmental regulation, since the water column and the seabed are ecologically interconnected and since pollution of one may affect the other. The governance of this area requires specific bilateral agreement on environmental standards, monitoring, and enforcement that Bangladesh and India have not yet concluded.

The transboundary environmental impacts of Indian river engineering, particularly the Farakka Barrage on the Ganges, on Bangladesh's coastal and marine environment have been extensively documented and are a long-standing source of tension in bilateral relations. The reduction in freshwater flow to the Sundarbans resulting from Farakka has contributed to the salinization of the mangrove ecosystem, affecting its biodiversity and productivity. The legal framework for bilateral environmental cooperation between Bangladesh and India, reflected in the 1996 Ganges Water Treaty, addresses freshwater flows but does not comprehensively address the downstream marine environmental impacts of upstream river management decisions. A bilateral agreement specifically addressing the transboundary marine environmental obligations of both states, grounded in their respective UNCLOS obligations and in the principles of no-harm and due diligence, would be a significant advance in the management of this dimension of the bilateral relationship.

CHAPTER 14: MARINE SCIENTIFIC RESEARCH, CAPACITY BUILDING, AND THE KNOWLEDGE COMMONS

14.1 UNCLOS Part XIII and Bangladesh's Scientific Research Obligations

Part XIII of UNCLOS, comprising Articles 238 to 265, establishes the legal framework for marine scientific research within the maritime zones of coastal states and on the high seas. Article 238 provides that all states, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research. Article 245 provides that coastal states have the right to regulate, authorize, and conduct marine scientific research in their territorial sea. And Article 246 provides that coastal states have the right to regulate, authorize, and conduct marine scientific research in their EEZ and on their continental shelf.

Bangladesh's domestic legal framework for the governance of marine scientific research is rudimentary. The 2021 Amendment to the Territorial Waters and Maritime Zones Act provides a general basis for the regulation of marine scientific research in Bangladesh's maritime zones, but it does not establish the detailed regulatory framework, including application and consent procedures, monitoring requirements, data sharing obligations, and enforcement mechanisms, that effective governance of marine scientific research requires. The absence of a clear and transparent regulatory framework has created uncertainty for foreign research institutions seeking to conduct marine scientific research in Bangladesh's waters, which has in turn reduced the volume of international collaborative research that could benefit Bangladesh's own scientific capacity.

At the same time, the governance of marine scientific research also raises questions about the rights of Bangladesh as a coastal state and as a developing state with an interest in capacity building and technology transfer. UNCLOS Article 249 requires states and international organizations conducting marine scientific research in the EEZ to ensure that the coastal state has the right to participate in the research project, to have access to all data and samples, and to receive a copy of the research results. Article 254 requires prompt advance notification to other states of proposed marine scientific research programs. And Article 255 requires states to adopt reasonable rules and procedures to promote and facilitate marine scientific research in their EEZ.

14.2 Building Bangladesh's Marine Scientific Capacity

Bangladesh's capacity for marine scientific research is limited relative to the scale of its maritime interests and its need for scientific information to support marine governance. The key institutions engaged in marine science research in Bangladesh include the Oceanography Department of the University of Chittagong, the Bangladesh Oceanographic Research Institute (BORI), and the relevant divisions of the Bangladesh Fisheries Research Institute. These institutions have produced valuable research on the ecology and resources of the Bay of Bengal, but their capacity is constrained by limited funding, equipment, and international connectivity.

The BBNJ Agreement's capacity-building and technology transfer provisions create an important opportunity for Bangladesh to secure international support for the development of its marine

scientific capacity. The Agreement explicitly recognizes the special needs of developing countries, including access to marine technology, training and education, and institutional capacity building. Bangladesh should engage proactively with the BBNJ Agreement's capacity-building committee and with bilateral scientific cooperation partners, including India, Japan, Germany, and the United States, to access the support available under these frameworks.

The development of Bangladesh's marine scientific capacity is not merely an end in itself; it is a prerequisite for the effective implementation of the governance obligations discussed throughout this Part. Effective fisheries management requires stock assessments that are impossible without scientific research. Effective marine environmental protection requires monitoring and assessment that depend on scientific capacity. Effective marine spatial planning requires ecological mapping that requires scientific survey. And effective implementation of Bangladesh's obligations under the BBNJ Agreement and UNCLOS requires a scientific foundation that only investment in Bangladesh's own research capacity can provide.

CHAPTER 15: A REFORM AGENDA FOR MARINE ENVIRONMENTAL LAW IN BANGLADESH

15.1 The Priority Reforms: An Integrated Legislative Program

The analysis presented throughout Part Seven points toward a comprehensive reform agenda for Bangladesh's marine environmental legal framework. This final chapter of Part Seven synthesizes the specific reform proposals advanced in previous chapters into an integrated legislative program, organized by priority and by the institutional and political conditions that will determine the feasibility of each reform.

The highest priority reform is the enactment of a comprehensive Marine Environmental Protection Act, as described in Chapter 12. This Act should be the centerpiece of a broader legislative reform program, establishing the legal and institutional framework within which the more specific reforms described below can be implemented. The preparation of such an Act requires significant technical expertise, extensive stakeholder consultation, and sustained political will. The government should establish a specialist drafting committee, including international maritime law experts and domestic legal and scientific specialists, to prepare a draft Act for parliamentary consideration. The BIMSTEC Secretariat, the FAO, the IMO, and the UNEP Regional Seas Programme should be engaged to provide technical support for the drafting process.

The second priority reform is the comprehensive revision of the Marine Fisheries Ordinance of 1983, to create a modern Marine Fisheries Act aligned with the FAO Code of Conduct for Responsible Fisheries, the SSF Guidelines, and Bangladesh's specific fisheries governance challenges. The new Act should incorporate the elements described in Chapter 6 of this Part, including a total allowable catch system, compulsory vessel monitoring coverage, mandatory catch reporting, effective sanctions for IUU fishing, and human rights provisions for small-scale fisherfolk and women.

The third priority reform is the accession to and domestic implementation of the outstanding international maritime environmental conventions to which Bangladesh is not yet party. These include, in order of priority: the 1992 CLC Protocol and the 1992 Fund Convention Protocol for oil pollution liability; the 1996 London Protocol on dumping; the 2001 Bunkers Convention; and the full implementation of MARPOL Annex VI on air pollution from ships. The ratification of these instruments, combined with the domestic legislative provisions and institutional measures necessary to give them effect, would significantly strengthen Bangladesh's international maritime environmental compliance.

The fourth priority reform is the establishment of the institutional architecture for marine environmental governance, beginning with the creation of a Marine Environment Protection Authority as described in Chapter 12. The establishment of such an authority requires legislative action to define its mandate, powers, and accountability mechanisms, as well as executive action to provide it with the resources, staff, and equipment necessary to fulfill its functions. The reform of port reception facilities at Bangladesh's ports to meet MARPOL requirements, the development of a national marine pollution emergency response plan, and the establishment of a joint marine environmental monitoring network should be associated institutional measures.

The fifth priority reform is the adoption of specific domestic legal provisions implementing the climate obligations confirmed by the 2024 ITLOS and 2025 ICJ Advisory Opinions, including the provisions described in Chapter 12 of this Part. These provisions should be incorporated in the proposed Marine Environmental Protection Act but may also require amendments to the Territorial Waters and Maritime Zones Act, the Bangladesh Climate Change Act (if enacted), and the energy sector legislation to ensure that Bangladesh's maritime sector is making appropriate contributions to climate mitigation.

15.2 The Political Economy of Marine Environmental Law Reform

Any analysis of the legal reform agenda must confront the political economy of reform, the distribution of interests and power among the actors who stand to gain or lose from proposed changes and whose support or opposition will determine whether reform is achieved. The political economy of marine environmental law reform in Bangladesh is complex and in several respects unfavorable to ambitious change.

The interests opposed to strong marine environmental regulation include the offshore hydrocarbon industry, which benefits from the absence of stringent environmental standards and from the current inadequacy of environmental impact assessment requirements; the industrial fishing sector, which benefits from weak enforcement of conservation measures; the shipbreaking industry, which benefits from the gap between current regulatory standards and the requirements of the Hong Kong Convention; and the industrial sector generally, which benefits from weak enforcement of land-based pollution controls. These interests are economically powerful and politically well-connected, and they will resist regulatory measures that impose costs on their operations.

The interests that should support strong marine environmental regulation include the small-scale fishing communities, who bear the costs of resource depletion and environmental degradation;

the coastal communities threatened by sea-level rise and storm surge intensification; the tourist industry and the communities dependent on tourism in coastal areas like Cox's Bazar and the Sundarbans; the consumers of seafood who bear the health risks of contaminated marine products; and the wider public, whose long-term prosperity depends on the sustainable management of Bangladesh's maritime resources. But these interests are less organized, less politically connected, and less well-resourced than the economic interests that oppose reform, and they have historically been underrepresented in the political processes that determine environmental policy.

The international dimensions of the political economy are also important. Bangladesh's international development partners, including the European Union, the World Bank, the Asian Development Bank, and the United Nations agencies, have provided significant financial and technical support for marine environmental governance initiatives and are generally supportive of ambitious legal reform. The international maritime community, represented through IMO processes and bilateral relationships with major flag and port states, creates both pressure and incentives for compliance with international maritime environmental standards. And the growing international momentum for climate action, reflected in the Advisory Opinions and in the increasingly ambitious commitments made by major states in international climate negotiations, creates a favorable international environment for the reform of Bangladesh's domestic climate obligations framework.

The path to comprehensive marine environmental law reform in Bangladesh requires a combination of political leadership, civil society advocacy, international support, and technical expertise. The historical record of environmental law reform in Bangladesh, including the successful enactment of the Bangladesh Environment Conservation Act and the establishment of the Environmental Court system, demonstrates that ambitious reform is possible when these elements are aligned. The current moment, with the BBNJ Agreement in force, the Advisory Opinions reshaping international climate obligations, and the Bay of Bengal ecosystem under severe and worsening pressure, creates both the urgency and the political opportunity for transformative reform.

15.3 The Role of the Judiciary: Environmental Constitutionalism and Marine Protection

Bangladesh's judiciary has demonstrated, in several landmark environmental decisions, a willingness to interpret constitutional provisions on environmental protection in ways that impose progressive and demanding obligations on the state. The constitutional provisions in Articles 18A (Right to Environment, added in 2011) and 31 (Right to Protection of Law) have been interpreted by the High Court Division of the Supreme Court to encompass the right to a healthy environment as a justiciable fundamental right, and the courts have issued injunctions and directions in environmental cases that have forced executive action on pollution and conservation issues.

The extension of this judicial environmental constitutionalism to the marine environment has been limited but not nonexistent. Cases have been brought before the High Court Division challenging development decisions affecting the Sundarbans and coastal zones, with mixed results. The High Court's decision in the Bangladesh Environmental Lawyers Association

(BELA) case challenging the Rampal power plant near the Sundarbans attracted considerable national and international attention, though the ultimate outcome was not fully satisfactory from an environmental perspective.

The legal basis for more vigorous judicial intervention in marine environmental governance is provided by the constitutional provisions, by Bangladesh's international law obligations under UNCLOS and related conventions, and by the growing body of judicial precedent on environmental rights. The ITLOS Advisory Opinion's confirmation that states have due diligence obligations under international law to protect the marine environment from climate change impacts, read in conjunction with the constitutional right to a healthy environment, provides a legal basis for judicial review of executive decisions that fail to reflect these obligations. Litigation strategies that draw on this combination of constitutional and international law arguments could be an important vehicle for advancing marine environmental protection in Bangladesh even in the absence of comprehensive legislative reform.

CONCLUSION TO PART SEVEN: THE SEA DEMANDS ACCOUNTABILITY

Part Seven has traversed a vast intellectual and normative landscape, from the philosophical foundations of environmental obligation in natural law, religious ethics, and earth jurisprudence, through the technical details of UNCLOS Part XII and international pollution conventions, to the most recent jurisprudential developments in the Advisory Opinions of 2024 and 2025, the entry into force of the BBNJ Agreement, and the specific legislative and institutional reforms that Bangladesh's marine environmental crisis demands.

The central argument of this Part can be stated simply, though its implications are complex: Bangladesh owes the Bay of Bengal the protection of the full force of its legal system, and that legal system has so far failed to deliver that protection. The failure is not due to any lack of international legal framework; on the contrary, the international marine environmental framework, developed through UNCLOS, the Advisory Opinions, the BBNJ Agreement, and the network of international pollution conventions, is increasingly sophisticated and increasingly demanding. The failure is domestic, a failure of legislative ambition, of institutional capacity, of political will, and of the integration of environmental values into the governance of Bangladesh's maritime domain.

The 2024 ITLOS Advisory Opinion, the first climate change advisory opinion of any international tribunal, delivered its holding unanimously and with unusual force. It confirmed that anthropogenic greenhouse gas emissions constitute pollution of the marine environment. It confirmed that states have due diligence obligations to take all necessary measures to prevent, reduce, and control such pollution. And it confirmed that these obligations are additional to and not displaced by states' commitments under the Paris Agreement. The legal revolution in the law of the sea that this Opinion represents is not merely an abstract development in international jurisprudence. It is a revolution with direct and specific implications for Bangladesh, a country where the marine environment is not merely a national resource but a dimension of human identity, cultural heritage, and civilizational continuity.

The BBNJ Agreement, in force since 17 January 2026, has created for the first time a legally binding framework for the governance of marine biodiversity beyond national jurisdiction, based on the common heritage of mankind principle and on the principles of equity and benefit sharing. This Agreement, which Bangladesh should ratify promptly and engage with actively, is both a legal instrument and a philosophical statement about the character of the ocean as a commons shared by all humanity. It resonates with the deepest traditions of legal philosophy discussed in this Part, from the Grotian concept of the sea as res communis to the modern concept of intergenerational equity, and it provides a framework for collective stewardship of the global ocean that is more sophisticated and more practically grounded than any previous instrument.

The Bay of Bengal does not submit petitions. It does not argue its case. But its condition speaks eloquently to those who have the knowledge and the will to listen. The loss of 81 fish species, the drop in catch per fishing boat from 13 tonnes to 4 tonnes, the progressive acidification of its waters, the plastic pollution that fills the stomachs of its fish, the rising seas that consume its mangroves and erode its shores: these are not merely ecological indicators. They are legal evidence, evidence of the failure of governance and the demand for reform.

The law must answer. Part Eight of this commentary will address the governance of Bangladesh's fisheries resources in the comprehensive detail that their importance demands, building on the foundations laid in Part Seven and developing the specific legislative and institutional reforms that sustainable fisheries governance requires. The work of this commentary is far from complete, but its direction is clear: toward a legal architecture adequate to the complexity and urgency of the challenges that the sea presents, and worthy of the people whose lives and futures depend on its health.

End of Part Seven

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PART EIGHT

MARITIME SECURITY LAW, JURISDICTION ON THE HIGH SEAS, AND THE ARCHITECTURE OF ORDER AT SEA: PIRACY, MARITIME TERRORISM, TRANSNATIONAL CRIME, FLAG STATE RESPONSIBILITY, AND THE IMPERATIVE OF INSTITUTIONAL REFORM IN BANGLADESH

A COMMENTARY ON THE LEGAL, PHILOSOPHICAL, JURISPRUDENTIAL, AND POLITICAL DIMENSIONS OF MARITIME SECURITY GOVERNANCE IN THE BAY OF BENGAL

PREFACE TO PART EIGHT

The sea has always been a place of danger. Long before lawyers devised sophisticated frameworks for maritime jurisdiction, before diplomats negotiated conventions and arbitration clauses, and before international tribunals deliberated upon the finer points of equitable delimitation, the sea was a space where human beings killed, robbed, enslaved, and trafficked other human beings with a freedom that the land rarely permitted. The pirate was not merely a romantic figure of popular literature; he was a structural feature of every maritime commercial system in history, preying upon trade routes and exploiting the inherent difficulty of policing a vast, fluid, and legally complex space. The slave ship was not an aberration; it was for centuries one of the most economically significant vessel types in international commerce, carrying human cargo across oceans with the explicit or tacit approval of the most powerful states of the day.

In the twenty-first century, the threats to order at sea have evolved dramatically in their form and complexity, even as they have remained constant in their fundamental character as expressions of violence, exploitation, and the abuse of power in a domain where the reach of law is structurally more limited than on land. Modern piracy, having declined significantly in the waters around the Horn of Africa following the robust international naval response of the 2000s, has shifted in its geographic distribution and in its modus operandi. Maritime terrorism, whether in the form of attacks on vessels and port facilities or in the use of maritime routes for the movement of weapons and fighters, has emerged as a major concern for security planners and legal scholars. The trafficking of human beings across the sea, in conditions of extraordinary brutality, is a humanitarian crisis of the first order. Drug trafficking through maritime channels, particularly the route from Myanmar and the Golden Triangle through the Bay of Bengal to South Asian and Southeast Asian markets, is a major governance challenge for all the littoral states of the region. And cyberattacks on vessel navigation, communications, and port management systems have added a new and technically complex dimension to the threat landscape that existing legal frameworks were not designed to address.

For Bangladesh, which sits at the northern end of the Bay of Bengal astride some of the most significant maritime trade and trafficking routes in Asia, these threats are not abstract. They are daily realities that challenge the capacity of the state's maritime security institutions, expose the gaps in its domestic legal framework, and create urgent demands for both legislative reform and regional cooperation. The Bangladesh Coast Guard, the Bangladesh Navy, the river police, and the customs and port authorities are all engaged in efforts to address these threats, but they operate under a legal framework that is fragmented, outdated in critical respects, and inadequately aligned with Bangladesh's international legal obligations.

This Part provides a comprehensive legal, jurisprudential, and political commentary on the law of maritime security as it applies to Bangladesh. It traces the historical and philosophical development of the concept of maritime security law from the ancient world's treatment of piracy to the contemporary international legal framework. It examines in detail the UNCLOS provisions on piracy and the high seas, the SUA Convention framework on maritime terrorism, the international instruments addressing trafficking in persons and drug smuggling at sea, and the evolving body of law on flag state responsibility. It provides a systematic critique of Bangladesh's domestic legal framework for maritime security governance, including the Bangladesh Coast Guard Act of 2010, the provisions of the Territorial Waters and Maritime Zones (Amendment) Act of 2021, the Merchant Shipping Ordinance of 1983, and the various criminal law instruments that bear upon maritime offences. It examines the latest developments in international maritime security law and policy, including the 2024 and 2025 initiatives of the International Maritime Organization, the BIMSTEC maritime security agenda, and the evolving doctrine on cybersecurity in the maritime context. And it proposes a comprehensive agenda for legislative and institutional reform, grounded in jurisprudential principle and attentive to the specific challenges of Bangladesh's maritime security situation.

The commentary in this Part is, as throughout this treatise, written at a moment of extraordinary political complexity for Bangladesh. The interim government that came to power following the July Revolution of 2024 has committed to institutional reform across multiple sectors, including the maritime domain. The Bangladesh Labour Act Amendment of November 2025, which extended legal protections to seafarers for the first time and aligned Bangladesh's framework with the Maritime Labour Convention, is one concrete expression of this reform agenda. But the deeper structural reforms required by the maritime security situation are far more demanding, and they require not merely legislative drafting but a reconceptualisation of the relationship between the state, the sea, and the communities that depend upon it.

The argument of this Part is ultimately jurisprudential as well as practical. Maritime security law is not merely a branch of public international law or of criminal procedure; it raises fundamental questions about the nature of sovereignty, the basis of universal jurisdiction, the relationship between security and freedom, and the responsibilities of states toward persons in distress at sea. These are questions that have occupied legal philosophers from Hugo Grotius to John Rawls, from Hans Kelsen to Philip Allott, and they deserve to be addressed with the same depth and seriousness that has characterized the treatment of other aspects of the law of the sea in this commentary.

CHAPTER 1: THE ANCIENT ENEMIES OF ALL MANKIND: A PHILOSOPHICAL AND HISTORICAL INTRODUCTION TO MARITIME SECURITY LAW

1.1 Hostis Humani Generis: The Pirate as Universal Enemy

The concept of the pirate as hostis humani generis, the enemy of all mankind, is one of the oldest and most enduring ideas in the law of nations. Its roots lie in Roman jurisprudence, in the writings of Cicero, who in his De Officiis described pirates as those with whom one could have no treaty, no oath, no law of hospitality in common, because they had placed themselves outside the community of human association that law and commerce require. The Roman Empire's naval campaigns against piracy in the Mediterranean, most famously the campaign of Pompey the Great in 67 BCE, which is credited with clearing the Mediterranean of pirate activity within a single campaigning season, established the precedent that the suppression of piracy was a legitimate exercise of power that transcended the ordinary limits of territorial sovereignty. Rome could pursue pirates wherever they fled, because pirates were not subjects of any sovereign who might object to the exercise of Roman jurisdiction over them.

The philosophical significance of the hostis humani generis concept cannot be reduced to mere political convenience, though it was certainly convenient for the Roman Empire to have a legal doctrine that justified the pursuit of enemies across the known world. At a deeper level, the concept expressed a genuine insight about the nature of the international community and the relationship between law and violence. The pirate, on this understanding, is not merely a criminal who has violated a particular state's law and is therefore subject to that state's criminal jurisdiction. The pirate is an enemy of the very social order that makes commerce, communication, and the peaceful intercourse of nations possible. By rejecting the laws that bind all other persons and states, the pirate has forfeited the protections that those laws provide, and has subjected himself to the jurisdiction of all states, any of which may capture and punish him in the name of the common interest of humanity.

This concept, developed in Roman legal thought and transmitted through the medieval law of nations to the early modern period, became the foundation of the international law of piracy as it developed in the seventeenth, eighteenth, and nineteenth centuries. It was expressed in the writings of Hugo Grotius, who in De Jure Belli ac Pacis of 1625 confirmed that pirates could be treated as enemies of all, and that any state that captured them could punish them without violating the sovereignty of any other state. It was confirmed by the English courts, most famously in the piracy trial of Captain William Kidd in 1701, which established the principle that acts of piracy on the high seas were subject to English admiralty jurisdiction regardless of the nationality of the pirate or the flag of the vessel attacked. And it was codified in the first international treaty specifically addressing piracy, the Convention for the Suppression of the Slave Trade and Piracy of 1841, which required the contracting parties to cooperate in the suppression of piracy.

The philosophical sophistication of the hostis humani generis concept deserves more than passing acknowledgment, however, because it raises questions that remain alive and contested in contemporary maritime security law. If the pirate is truly an enemy of all mankind, then the universality of jurisdiction over pirates would seem to be unlimited: any state could capture, try,

and punish any pirate, regardless of where the act was committed, the nationality of the perpetrators, or the flag of the vessel attacked. But this unlimited universality is difficult to square with other principles of international law, particularly the principle of sovereign equality and the principle that criminal jurisdiction requires some connecting link between the state asserting jurisdiction and the alleged crime. The tension between the principle of universal jurisdiction and the principles of sovereignty and sovereign equality has never been fully resolved, and it continues to generate controversy in the application of contemporary maritime security law.

The hostis humani generis doctrine also raises a more fundamental philosophical question about the relationship between inclusion in and exclusion from the moral and legal community. Hannah Arendt, in The Origins of Totalitarianism, identified statelessness and the loss of citizenship as the most fundamental deprivation of rights, because the right to have rights depends on membership in a political community. The pirate, as traditionally conceived, is a person who has voluntarily expelled himself from all political communities and therefore from the protection of all laws. But in the contemporary context, where many of the persons apprehended as pirates in the Bay of Bengal and other maritime regions are impoverished fishermen driven by economic desperation rather than genuine outlaws, the moral basis of the hostis humani generis designation becomes deeply problematic. Are the fishermen of coastal Bangladesh who engage in opportunistic robbery of passing vessels, driven by the collapse of fish stocks and the destruction of their traditional livelihoods by climate change and industrial trawling, truly enemies of all mankind? Or are they victims of a global economic and ecological order that has deprived them of lawful means of survival?

This question is not merely rhetorical. It bears directly on the appropriate legal and policy response to maritime security threats in the Bay of Bengal, and on the design of the legal framework that Bangladesh needs to address those threats effectively and justly.

1.2 The Historical Development of Maritime Security Law: From Ancient Rome to the Age of Sail

The Roman Empire's success in suppressing Mediterranean piracy demonstrated that organised state power, applied with determination and adequate resources, could achieve dramatic results in the maritime security domain. The collapse of Roman power in the Western Mediterranean in the fifth century of the common era was accompanied by a resurgence of piracy, as the Vandals and other successor powers lacked both the naval capacity and the legal authority to maintain order at sea. The medieval Mediterranean was a sea of constant maritime conflict, in which the distinction between piracy, privateering, and naval warfare was often blurred or non-existent.

The development of the law merchant, the lex mercatoria, in the medieval period created a body of commercial law that facilitated maritime trade across jurisdictional boundaries, and the law of the sea as it applied to commercial matters was administered by specialised admiralty courts in the major maritime states of Europe. The English Court of Admiralty, established by the fourteenth century, had jurisdiction over maritime matters including piracy, and the distinction between admiralty jurisdiction and common law jurisdiction was one of the major legal controversies of the Tudor and Stuart periods. The Offences at Sea Act of 1536, enacted under

Henry VIII, gave English courts jurisdiction over piracy committed anywhere on the high seas, regardless of the nationality of the perpetrators, and established the basic framework of the English law of piracy that would persist for centuries.

The Age of Sail, from the sixteenth through the eighteenth century, saw an explosive growth in maritime commerce, an expansion of European naval and commercial power across all the world's oceans, and a corresponding growth in the practice and the governance of maritime security. The line between piracy and privateering was maintained in legal theory but frequently breached in practice: privateers, private vessels authorised by a sovereign to attack the vessels of enemy states, could easily become pirates when their letters of marque expired or when their attacks extended beyond the limits of their authorisation. The Buccaneers of the Caribbean, the Barbary Corsairs of the North African coast, and the Portuguese and Dutch naval operators in the Indian Ocean all occupied a legally ambiguous position between state-sanctioned violence and criminal piracy.

The Declaration of Paris of 1856, the first multilateral treaty to address the legal status of privateering, abolished the practice among the signatories and thereby drew a cleaner line between legitimate naval warfare and piracy. The Paris Declaration was not universally ratified, and the legal status of privateering remained contested in the law of nations for decades, but it represented an important step in the systematization of maritime security law at the international level. The subsequent development of the laws of war at sea, codified in the Hague Conventions of 1899 and 1907 and further developed in the course of the two World Wars, progressively distinguished between the lawful violence of states in armed conflict and the unlawful violence of pirates and criminals.

The Bengal coast and the Bay of Bengal were not immune from the maritime insecurity that characterized the Age of Sail. The Mughal imperial court periodically delegated authority over the Bengal coast to local governors whose principal maritime challenge was the suppression of the piracy that plagued the Bengal delta region. The Magh pirates, operating from the Arakan coast of present-day Myanmar, and the Portuguese freebooters who established themselves in the Chittagong area, raided coastal villages and captured inhabitants for sale as slaves throughout the seventeenth century. The collaboration between Portuguese and Arakanese pirates in the ransacking of the Bengal delta was a major factor in the decline of the Mughal province of Bengal in the seventeenth century, forcing tens of thousands of people to abandon coastal and riverine settlements. This historical experience of maritime insecurity is an important part of the background against which Bangladesh's contemporary maritime security challenges must be understood.

The suppression of the Bengal piracy was achieved not through international cooperation under a legal framework, which did not yet exist in the modern sense, but through the application of Mughal military power, including the development of a river fleet specifically designed for operations in the shallow delta waters where the pirates operated. The Mir Miran, the commander of the Mughal naval forces in Bengal, conducted extensive campaigns against the Magh pirates in the 1660s and 1670s, achieving significant suppression of piracy in the Bengal delta region. This historical precedent of military-led suppression of maritime insecurity in the delta environment is noteworthy, though the legal framework within which contemporary

enforcement operations must operate is, of course, fundamentally different from the Mughal imperial context.

1.3 The Codification of Piracy Law in the International Instruments: The Geneva Conventions of 1958 and the UNCLOS Framework

The first comprehensive international codification of the law of piracy was contained in Articles 14 to 22 of the Geneva Convention on the High Seas of 1958, which represented an attempt to convert the previously customary international law of piracy into a clear treaty framework. The 1958 provisions were subsequently reproduced, with minor amendments, in Articles 100 to 107 of the United Nations Convention on the Law of the Sea of 1982. The UNCLOS framework on piracy is therefore the direct heir of two centuries of customary law development, filtered through the codification effort of the mid-twentieth century.

The UNCLOS definition of piracy, contained in Article 101, is central to the entire international legal framework for the suppression of piracy. The Article provides that piracy consists of any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or aircraft, and directed on the high seas against another ship or aircraft, or against persons or property on board such ship or aircraft, or in a place outside the jurisdiction of any state. This definition has been the subject of extensive scholarly analysis and judicial interpretation, and it contains several elements that are both legally significant and practically controversial.

The requirement that piracy be committed for private ends is one of the most contested elements of the definition. Politically motivated attacks on vessels, such as acts carried out in the context of armed conflict or by groups claiming a political purpose, do not meet this criterion and therefore do not constitute piracy under international law. The attacks carried out by Palestinian militants on Israeli shipping in the 1970s, or by various liberation movements on colonial shipping in the era of decolonisation, were not piracy in the technical international legal sense, even though they shared many of the physical characteristics of piracy. This limitation of the piracy definition to private ends has significant implications for the treatment of maritime terrorism, which often has a political character, and it explains why a separate international legal framework for maritime terrorism, the SUA Convention, had to be developed.

The requirement that piracy be committed on the high seas or in a place outside the jurisdiction of any state creates a significant gap in the international legal framework, because it means that acts of violence against vessels within the territorial sea of a coastal state do not constitute piracy under international law, even though they may be identical in their character and consequences to piracy on the high seas. This limitation reflects the fundamental principle that territorial waters are under the sovereignty of the coastal state, which has exclusive criminal jurisdiction over offences committed therein. But it creates the practically awkward situation where the same act of maritime robbery may be piracy if committed slightly further from shore and a lesser domestic offence if committed in territorial waters. The armed robbery at sea, as distinguished from piracy, is a concept that has been developed to address this gap, and it is addressed in the International Maritime Organization's guidelines on the suppression of piracy and armed robbery against ships.

The requirement that the act be directed from a private ship or aircraft against another ship has been interpreted by courts and scholars to require a two-vessel element. This means that an act of violence by crew members against other crew members or passengers on the same vessel does not constitute piracy under the UNCLOS definition; it may be a domestic criminal offence, but it is not an act of piracy subject to the universal jurisdiction of all states. This interpretation was confirmed by the English Court of Appeal in the Castle John case and has been generally accepted in international legal scholarship, though it has been criticized as a formalistic distinction that does not reflect the practical reality of maritime criminal activity.

The universal jurisdiction provision of Article 105 of UNCLOS is the doctrinal heart of the piracy regime. It provides that on the high seas, or in any other place outside the jurisdiction of any state, every state may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board. The courts of the state which carried out the seizure may decide upon the penalties to be imposed, and may also determine the action to be taken with regard to the ships, aircraft, or property, subject to the rights of third parties acting in good faith. This provision codifies the ancient doctrine of hostis humani generis: any state may exercise jurisdiction over pirates, regardless of the nationality of the pirate, the flag of the attacked vessel, or the place of capture.

The universal jurisdiction principle, as applied in the piracy context, has been tested in several significant cases arising from the epidemic of Somali piracy in the late 2000s and early 2010s. The decisions of courts in Kenya, the Seychelles, India, the United States, Germany, and other states that prosecuted Somali pirates captured by international naval forces raised important questions about the limits of universal jurisdiction, the rights of accused pirates, and the relationship between universal jurisdiction and the bilateral agreements under which captured pirates were transferred to third states for prosecution. These decisions have significantly developed the case law of maritime security law, and they are relevant to Bangladesh's situation in ways that deserve careful analysis.

1.4 The Grotian Framework Revisited: Freedom of the Seas and the Problem of Maritime Security

The tension between the Grotian principle of freedom of the seas and the practical necessity of maintaining order on the high seas is one of the most profound structural paradoxes in the law of the sea. Grotius argued for the freedom of the seas primarily in opposition to territorial claims over ocean space, insisting that the high seas were res communis and could not be the subject of sovereign appropriation. But the logical corollary of the freedom of the seas is that no state can exercise police power over the high seas in the same way that it exercises police power over its own territory, since the exercise of police power implies a form of jurisdiction that the freedom principle appears to deny.

The resolution of this paradox in the modern law of the sea rests on the concept of flag state jurisdiction. Under UNCLOS, every ship is required to sail under the flag of a state, and the flag state is responsible for the ship and for ensuring that it complies with international law. The flag state exercises exclusive criminal jurisdiction over the ship on the high seas; no other state may board or interfere with a foreign-flagged vessel on the high seas without the consent of the flag

state, except in the specific circumstances defined by UNCLOS. These circumstances include the suppression of piracy, the slave trade, unauthorized broadcasting, and the exercise of the right of visit and hot pursuit.

The flag state system is, however, deeply imperfect as a mechanism for maintaining order on the high seas, and this imperfection has become increasingly apparent over the decades since UNCLOS was adopted. The practice of flags of convenience, by which shipowners register their vessels in states whose regulatory standards are minimal and whose enforcement capacity is negligible, has created a massive gap between the formal legal responsibility of the flag state and the practical reality of flag state control over vessels flying its flag. Panama, Liberia, and the Marshall Islands are together the flag states of more than half the world's commercial shipping by tonnage, but these states lack the naval, administrative, and legal capacity to exercise effective control over vessels flying their flags. The result is a systematic weakening of the flag state system that creates opportunities for maritime crime, environmental violation, and the circumvention of safety and labour standards.

The concept of genuine link, enshrined in UNCLOS Article 91, which requires that there be a genuine link between the flag state and the ship registered under its flag, was intended to prevent the abuses of the flag of convenience system. But the International Court of Justice's judgment in the Nottebohm case of 1955, which required a genuine link between a state and an individual claiming its nationality, has not been effectively applied in the vessel registration context, and the UNCLOS provision has been largely toothless in practice. The 1986 UN Convention on Conditions for Registration of Ships, which attempted to give substantive content to the genuine link requirement, has not entered into force for lack of ratifications.

This failure of the flag state system has direct implications for Bangladesh's maritime security challenges. Vessels engaged in piracy, drug trafficking, and human trafficking in the Bay of Bengal frequently fly flags of convenience or sail under no flag at all, complicating the legal framework for their interdiction. The question of what jurisdiction Bangladesh can lawfully exercise over such vessels, and what obligations it has when it encounters them, requires careful legal analysis.

1.5 The Philosophical Dimensions of Maritime Security: Security, Freedom, and the Claims of Vulnerable Persons

Before moving to the specific legal framework, this commentary must briefly address the philosophical dimensions of the maritime security problem that are often neglected in purely doctrinal analysis. Maritime security law is not merely a set of rules for policing the sea; it expresses deep values about the relationship between the state and the individual, between freedom and order, and between the claims of security and the claims of vulnerable persons.

The tension between security and freedom is perhaps most acute in the maritime context, where the exercise of security jurisdiction often involves the boarding and inspection of vessels, the detention of persons, and the restriction of movement, all of which implicate fundamental human rights. The right of visit, the right of hot pursuit, and the right of interdiction in connection with piracy and other maritime crimes are all exercises of coercive state power that must be conducted

in accordance with international human rights law as well as the specific rules of maritime security law. The application of due process rights to persons accused of piracy, the treatment of persons rescued from vessels involved in trafficking and smuggling, and the obligations of states toward persons in distress at sea are all dimensions of the maritime security problem that intersect with international human rights law in complex and challenging ways.

John Rawls's theory of justice, developed in A Theory of Justice published in 1971 and in Political Liberalism published in 1993, provides a useful philosophical framework for thinking about some of these dimensions. Rawls argued that the principles of justice applicable to institutions and social arrangements are those that rational persons would choose from behind a veil of ignorance, not knowing their own position in society. Applied to the maritime security context, this framework suggests that the rules governing the exercise of jurisdiction over persons at sea should be designed to protect the interests of the most vulnerable persons, including those fleeing persecution, economic destitution, or the consequences of climate change, as well as those of the states seeking to maintain order. A legal framework that prioritises the enforcement interests of powerful states over the human rights of vulnerable seafarers and maritime migrants is not just in the Rawlsian sense, because persons behind a veil of ignorance would not choose such a framework if they might themselves be in the position of the vulnerable seafarer or the economic migrant.

Philip Allott's vision of international law as a social ideal rather than merely a system of rules governing state behaviour is also relevant to the maritime security context. Allott, in Eunomia: New Order for a New World published in 1990, argued that international law should be understood as the expression of humanity's self-constituting will, a framework through which human society gives itself a legal order that reflects its deepest values and aspirations. In this perspective, maritime security law is not merely a set of technical rules for policing the sea; it is an expression of humanity's aspiration to a world in which the sea is a space of peace, commerce, and shared prosperity rather than a space of danger, exploitation, and predation. This aspiration has profound implications for the design of maritime security law, directing it toward not only the suppression of crime but the creation of the conditions in which maritime crime is less likely to flourish.

The specific conditions that drive maritime insecurity in the Bay of Bengal, including poverty, climate-driven displacement, the collapse of fish stocks, and the exploitation of migrant communities, are conditions that Bangladesh's maritime security law must address if it is to achieve genuine security rather than merely the temporary suppression of symptoms. This broader understanding of maritime security, which encompasses social, economic, and environmental dimensions as well as the narrowly law-enforcement dimension, is the framework within which the specific legal provisions discussed in the following chapters must be evaluated.

CHAPTER 2: THE UNCLOS FRAMEWORK FOR HIGH SEAS SECURITY: PIRACY, THE RIGHT OF VISIT, AND HOT PURSUIT

2.1 The Piracy Provisions of UNCLOS: Articles 100 to 107 in Detail

Articles 100 to 107 of UNCLOS constitute the primary international legal framework for the suppression of piracy, and they deserve detailed examination in a commentary directed at the reform of Bangladesh's maritime security law. They represent the cumulation of centuries of customary law development, filtered through the codification of the 1958 Geneva Conference and adapted to the comprehensive zonal framework of UNCLOS.

Article 100, which opens the piracy section, imposes a positive obligation on all states to cooperate to the fullest possible extent in the repression of piracy on the high seas or in any other place outside the jurisdiction of any state. This is a mandatory obligation, expressed in the mandatory shall cooperate language, not a discretionary invitation to cooperation. The obligation applies to all state parties to UNCLOS, regardless of whether they are directly affected by piracy incidents, and it includes the obligation to cooperate in sharing information about suspected pirate vessels, to provide assistance to states engaged in anti-piracy operations, and to prosecute pirates captured by their naval forces. Bangladesh, as a state party to UNCLOS, is bound by this obligation, and its compliance requires not only the domestic legal framework for the prosecution of piracy but also the institutional capacity for maritime surveillance, naval patrol, and regional information sharing.

The substantive definition of piracy in Article 101, as analyzed in the previous chapter, contains several elements that have generated both scholarly debate and practical difficulties in application. The private ends requirement has already been discussed. The two-vessel requirement, derived from the interpretation of the words directed against another ship, has been confirmed by judicial authority. The high seas requirement, limiting the UNCLOS piracy definition to acts committed on the high seas or in places outside national jurisdiction, creates the gap addressed by the armed robbery at sea category.

What requires particular emphasis in the Bangladesh context is the practical implication of the territorial sea exclusion from the UNCLOS piracy definition. The vast majority of maritime robberies and attacks in the Bay of Bengal occur not on the high seas but within the territorial waters of Bangladesh, India, or Myanmar, or in the internal waters of the complex delta system of the Ganges-Brahmaputra-Meghna estuary. These are acts of armed robbery at sea, not piracy in the UNCLOS sense, and they are governed by domestic criminal law rather than by the universal jurisdiction principle of UNCLOS. The domestic criminal law applicable to armed robbery at sea in Bangladesh is not comprehensively codified for the maritime context, and the jurisdictional framework for the prosecution of such offences raises complex questions that the existing legal framework does not adequately address.

Article 103 of UNCLOS defines a pirate ship as a ship intended by the persons in dominant control to be used for the purpose of committing one of the acts referred to in Article 101. The concept of pirate ship is significant because it enables the seizure not only of pirates themselves but of the vessels through which they operate, a measure that is important both as a deterrent and as a practical law enforcement tool. However, the definition requires proof of intent, which can be difficult to establish in the absence of direct evidence of planned piracy. Courts have addressed this difficulty by allowing intent to be inferred from circumstances, including the presence of weapons, grappling hooks, and other piracy equipment on board, but the evidentiary standards applicable in different national jurisdictions vary significantly.

Article 105, which codifies the right of seizure on the high seas, has been discussed above. It is worth noting that the right of seizure under this Article is a right, not a duty; states may seize pirate ships, but they are not required to do so. In practice, the decision to exercise the right of seizure depends on multiple factors, including the naval capacity of the state, the geographic proximity of the pirate vessel, the available prosecutorial resources, and the diplomatic implications of seizing foreign nationals. The reluctance of some states to exercise the right of seizure, particularly when capture would result in the obligation to prosecute pirates in their domestic courts, has been one of the major practical obstacles to effective anti-piracy enforcement.

The problem of catch and release, a phenomenon well-documented in the Somali piracy context and noted in at least one recent study of Bay of Bengal maritime crime, arises precisely from this reluctance. States that have the naval capacity to apprehend suspected pirates may decline to do so if they lack the domestic legal framework to prosecute them, if the evidentiary requirements for prosecution cannot be satisfied in the maritime context, or if the costs of prosecution and incarceration are deemed to outweigh the law enforcement benefit. The 2021 Amendment to Bangladesh's Territorial Waters and Maritime Zones Act specifically introduced piracy as a punishable offence in compliance with UNCLOS Article 101, addressing a significant gap in the previous legal framework, but the prosecution framework still requires substantial development, as discussed in detail below.

Article 107 addresses the right to seize pirate ships on the basis of warships, military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect. This provision has important implications for the role of the Bangladesh Navy and the Bangladesh Coast Guard in anti-piracy operations. Both institutions operate vessels that meet the Article 107 description, but the domestic legal authorization for their exercise of the right of seizure on the high seas needs to be clearly established in the legislation governing these institutions, and the rules of engagement for such operations need to be carefully defined.

2.2 The Right of Visit Under Article 110: A Critical Analysis

Article 110 of UNCLOS defines the right of visit, one of the most important exceptions to the exclusive jurisdiction of the flag state on the high seas. The right of visit allows a warship of any state that encounters a foreign vessel on the high seas and has reasonable grounds for suspecting that the vessel is engaged in piracy, the slave trade, unauthorized broadcasting, is without nationality, or is in fact the same nationality as the warship though flying a foreign flag, to proceed to verify the right of the vessel to fly its flag. The warship may send a boat under the command of an officer to the suspected ship, and if suspicion remains after checking the documents, a further examination on board may be carried out with all possible consideration.

The reasonable grounds standard in Article 110 is deliberately formulated to balance the security interests of the inspecting state against the freedom of navigation interests of the flag state and the ship's operator. The standard is not absolute certainty; it requires only a reasonable basis for suspicion, based on the totality of circumstances visible to the warship commander. But it is not a trivial standard either; a bare hunch or a random selection for inspection without any factual basis does not meet the requirement. In practice, the factors that constitute reasonable grounds

have been developed through naval practice, rules of engagement, and the limited jurisprudence on the Article 110 standard.

For Bangladesh, the right of visit is an important law enforcement tool in the effort to address maritime security threats in the Bay of Bengal. The Bangladesh Navy and the Bangladesh Coast Guard routinely encounter vessels in Bangladesh's territorial sea and EEZ whose activities give rise to reasonable grounds for suspicion. The legal framework for the exercise of the right of visit in these contexts needs to be clearly defined in domestic legislation, specifying the authority of naval officers and coast guard personnel to board and inspect vessels, the procedures to be followed during inspections, the rights of persons on board during and after inspection, and the legal basis for arrest, seizure, and prosecution arising from inspections.

The domestic legal framework currently applicable to these operations is contained in the Bangladesh Coast Guard Act of 2010, the Merchant Shipping Ordinance of 1983, and the Marine Fisheries Ordinance of 1983, supplemented by administrative rules and operational instructions. This framework is fragmented, does not clearly incorporate the UNCLOS standards for the right of visit, and does not adequately address the human rights obligations that apply to persons detained during naval or coast guard operations at sea. A comprehensive Maritime Enforcement Act, harmonising the enforcement powers of the Bangladesh Navy and the Bangladesh Coast Guard, incorporating UNCLOS standards, and setting out clearly the human rights protections applicable to persons subject to maritime enforcement operations, is a major desideratum of maritime law reform in Bangladesh.

2.3 Hot Pursuit Under Article 111: Doctrine, Application, and Bangladesh

The right of hot pursuit is one of the most practically significant and conceptually interesting provisions of the law of the sea. Article 111 of UNCLOS provides that the hot pursuit of a foreign ship may be undertaken when the competent authorities of the coastal state have good reason to believe that the ship has violated the laws and regulations of that state. Such pursuit must be commenced when the foreign ship or one of its boats is within the internal waters, the archipelagic waters, the territorial sea or the contiguous zone of the pursuing state, and may only be continued outside the territorial sea or the contiguous zone if the pursuit has not been interrupted.

Hot pursuit is a doctrine that extends the enforcement jurisdiction of the coastal state beyond the ordinary limits of its maritime zones, allowing it to pursue a vessel that has committed a violation within those zones onto the high seas and there to arrest the vessel and bring it back for prosecution. The doctrine reflects the common sense intuition that it would be absurd if a vessel could commit a violation in a state's territorial waters and then escape punishment simply by fleeing to the high seas, where the flag state's exclusive jurisdiction would normally prevent any enforcement action by the coastal state. It codifies a principle that had been recognised in customary international law since at least the nineteenth century and reflects the broader principle that states should not be prevented from enforcing their own laws against those who have violated them.

The requirements for lawful hot pursuit under Article 111 are carefully specified. The pursuit must be commenced when the offending vessel is still within the pursuing state's maritime zones. A visual or auditory signal to stop must be given at a range at which the signal can be seen or heard by the foreign ship before the pursuit begins. The pursuit may only be carried out by warships or military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and specially authorized to that effect. The pursuit must be continuous; it cannot be interrupted and then resumed. And the right of hot pursuit ceases as soon as the ship pursued enters the territorial sea of its own country or of a third state.

The doctrine of hot pursuit raises several philosophical questions that reflect the broader tensions in the law of the sea. The requirement of continuity, in particular, reflects the traditional understanding of hot pursuit as an extension of the pursuing state's enforcement jurisdiction, which is justified only so long as the pursuit is actually in progress. But in the modern operational context, where naval vessels can maintain visual or electronic tracking of a fleeing vessel while remaining some distance away, the requirement of physical continuity may be technologically anachronistic. There is a scholarly argument that the requirement of continuity should be interpreted to include electronic tracking, so long as the pursuing state has maintained uninterrupted awareness of the location and movements of the pursued vessel, even if the physical distance between the vessels has grown.

For Bangladesh, the right of hot pursuit is a legally significant tool in the enforcement of fisheries regulations, anti-piracy operations, and other maritime security functions. Bangladesh's naval and coast guard vessels have operational capability to commence and maintain hot pursuit of vessels fleeing Bangladesh's maritime zones, and there have been documented instances of hot pursuit operations in the Bay of Bengal. However, the domestic legal framework for hot pursuit operations is not comprehensively codified, and the rules of engagement applicable to such operations need to be clearly and precisely defined to avoid both under-enforcement and the risk of unlawful action against foreign-flagged vessels.

One specific challenge in the hot pursuit context is the question of what happens when a vessel being pursued by Bangladesh enters the territorial waters of a neighboring state, specifically India or Myanmar. At that point, under Article 111(3), the right of hot pursuit ceases, because the pursued vessel has entered the territorial sea of another state. The pursuing vessel must break off the pursuit, regardless of whether the flag state of the vessel or the state whose territorial waters have been entered has consented to the continuation of the pursuit. This can create a practically unsatisfactory situation in which a vessel that has committed a serious violation of Bangladesh's laws can escape enforcement action simply by crossing into the territorial waters of a neighboring state.

The solution to this problem in practice is bilateral agreement between the relevant states on arrangements for the continuation of pursuit or the transfer of enforcement responsibility across maritime boundaries. The BIMSTEC framework provides a potential institutional basis for such arrangements, and the 2025 BIMSTEC Agreement on Maritime Transport Cooperation, noted in the preface to this treatise, may provide a vehicle for the development of cooperative maritime enforcement arrangements among the Bay of Bengal states. The development of such

arrangements is a significant element of the maritime security reform agenda for Bangladesh, and it requires diplomatic engagement as well as legislative action.

2.4 The Right Against Stateless Vessels: The MV Saiga Principle and Its Implications

The treatment of stateless vessels, ships that fly no flag or carry no proper documentation of their flag state registration, is a significant practical issue in the maritime security context. Stateless vessels are vessels without nationality in the legal sense; they are not entitled to fly the flag of any state and do not enjoy the protection of any flag state. UNCLOS Article 110(1)(d) permits a warship to exercise the right of visit against a vessel that is without nationality, confirming that stateless vessels do not enjoy the protection of the exclusive jurisdiction of the flag state on the high seas.

The MV Saiga cases before the International Tribunal for the Law of the Sea, while addressing the specific situation of a vessel detained by Guinea in connection with alleged violations of Guinea's customs law in its EEZ, established important principles about the exercise of enforcement jurisdiction at sea that are relevant to the treatment of stateless vessels. ITLOS affirmed that the use of force in the arrest of a vessel at sea must be proportionate to the threat, and that states are required to avoid endangering human life and the safety of the ship when using force during enforcement operations at sea. These principles of proportionality and the protection of human life in enforcement operations apply equally to the exercise of rights against stateless vessels.

The relevance of these principles to Bangladesh's maritime security operations is significant. Many of the vessels engaged in illegal fishing, drug trafficking, and human trafficking in the Bay of Bengal are stateless, unregistered, or carry fraudulent documentation. The enforcement operations conducted by the Bangladesh Navy and the Bangladesh Coast Guard against such vessels must be conducted in accordance with the principles of proportionality and the protection of human life, even when the vessels are not entitled to the protection of flag state jurisdiction. The domestic legal framework governing enforcement operations at sea must clearly incorporate these principles, specifying the rules of engagement for the use of force during maritime enforcement operations and the procedures for the protection of persons on board vessels subject to enforcement action.

CHAPTER 3: MARITIME TERRORISM AND THE SUA CONVENTION FRAMEWORK

3.1 The Emergence of Maritime Terrorism as a Distinct Legal Problem

The distinction between piracy and maritime terrorism is not merely academic; it has significant legal consequences for the applicable jurisdiction, the available penalties, and the international cooperation frameworks relevant to the respective threats. As noted in the previous chapter, the UNCLOS definition of piracy requires that the act be committed for private ends, which generally excludes politically motivated attacks on vessels from the piracy category. Maritime

terrorism, defined broadly as the use of violence or the threat of violence against persons or property in the maritime domain for political, ideological, or religious purposes, therefore requires a distinct legal framework.

The event that catalysed the development of a specific international legal framework for maritime terrorism was the hijacking of the Italian cruise ship Achille Lauro by Palestinian militants in October 1985. During the hijacking, an American passenger, Leon Klinghoffer, who was in a wheelchair, was shot and thrown overboard. The incident demonstrated that the existing international legal framework, including the UNCLOS piracy provisions, did not clearly cover politically motivated attacks on vessels in territorial waters, and that there was a significant gap in the international legal architecture for responding to such attacks. The United States took the lead in proposing the development of a new convention specifically addressing unlawful acts against the safety of maritime navigation.

The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, known as the SUA Convention, was adopted in Rome in 1988 under the auspices of the International Maritime Organization and entered into force in 1992. It was subsequently supplemented by a Protocol addressing unlawful acts against the safety of fixed platforms located on the continental shelf. The SUA Convention and its Protocol were significantly amended in 2005, in the aftermath of the September 11 attacks and in the context of the broader international effort to strengthen the legal framework for the suppression of terrorism.

3.2 The SUA Convention: Core Provisions and Significance

The SUA Convention creates a comprehensive framework of offences relating to unlawful acts against the safety of maritime navigation, establishes the jurisdiction of contracting states over these offences, and creates obligations of extradition or prosecution applicable to all states parties. The core offences defined in Article 3 of the original SUA Convention include the seizure of a ship by force, threat, or intimidation; the performance of an act of violence against a person on board a ship; the destruction of a ship or the causing of damage to a ship or its cargo that is likely to endanger its safe navigation; the placing of a device or substance on a ship likely to destroy it or cause damage; the destruction or serious damage of maritime navigational facilities or serious interference with their operation; the communication of false information likely to endanger the safety of a ship in navigation; and injuries to persons or destruction of property in connection with these offences.

The 2005 Protocol to the SUA Convention significantly expanded the list of offences to encompass acts of maritime terrorism more broadly defined, including the use of ships as weapons to cause death, injury, or destruction; the discharge or threat to discharge toxic, biological, radiological, or nuclear substances from ships; and the transport of persons who have committed terrorism offences, as well as the transport of weapons, materials, or equipment intended for use in weapons of mass destruction. The 2005 Protocol also addressed the problem of vessel boarding for law enforcement purposes, including boarding by consent of the flag state and the exercise of boarding rights in relation to stateless vessels.

Bangladesh ratified the original SUA Convention in 2005, but has not ratified the 2005 Protocol. This is a significant gap in Bangladesh's international maritime security legal framework. The 2005 Protocol's provisions on the transport of weapons of mass destruction materials and on the transport of terrorists are particularly important in the Bay of Bengal context, given the regional security concerns about the potential for maritime routes to be exploited for the movement of weapons and fighters. Bangladesh should prioritise the ratification of the 2005 SUA Protocol and the incorporation of its provisions into domestic law.

The SUA Convention's jurisdictional framework is notably broader than the UNCLOS piracy jurisdiction. While UNCLOS piracy jurisdiction is universal, the SUA framework is based on a combination of territorial, nationality, and passive personality jurisdiction, supplemented by a universal jurisdiction principle for offences that threaten the safety of international navigation. The contracting state where the offence is committed, the flag state of the vessel involved, the state of nationality of the offender, and the state of nationality of a victim all have jurisdiction over SUA offences. The Convention also creates an obligation of extradite or prosecute, requiring contracting states to either extradite an alleged offender to a requesting state with jurisdiction or to submit the case to its own competent authorities for the purpose of prosecution.

The aut dedere aut judicare principle, the obligation to extradite or prosecute, is one of the most significant contributions of the SUA Convention to the international legal framework for maritime security. It ensures that alleged offenders cannot find safe harbour in any contracting state by simply declining to extradite them; the state of refuge must either hand over the alleged offender to a state with proper jurisdiction or prosecute the offender itself. This principle has been confirmed as a norm of customary international law in the ICJ's judgment in Questions Relating to the Obligation to Prosecute or Extradite (Belgium v Senegal) of 2012, and it applies to all states parties to the SUA Convention.

Bangladesh's domestic criminal law framework for the prosecution of SUA offences is inadequate. The Penal Code of 1860, which remains the primary criminal law statute of Bangladesh, contains no provisions specifically addressing maritime terrorism or the broad range of offences defined in the SUA Convention. The Suppression of Acts of Terrorism Act of 1992, as amended, contains terrorism offences that could potentially be applied to some maritime terrorism scenarios, but it was not designed with the maritime context in mind and its provisions do not clearly cover the full range of SUA offences. A dedicated Maritime Security Act, or comprehensive amendments to the Penal Code and the terrorism legislation, is needed to give domestic legal effect to the full range of Bangladesh's SUA Convention obligations.

3.3 Cyber Threats to Maritime Security: The Emerging Legal Frontier

The rapid digitalisation of the maritime sector has created a new and technically complex dimension of maritime security that existing legal frameworks were not designed to address. Modern vessels depend on digital systems for navigation, communication, cargo management, engine control, and virtually every other operational function. Port management systems, vessel traffic services, and maritime data exchange platforms are similarly dependent on digital infrastructure. The vulnerability of these systems to cyberattack is well-documented and has

been the subject of growing concern among maritime security professionals, maritime insurance underwriters, and international regulatory bodies.

The practical consequences of cyberattacks on maritime systems can be severe. The manipulation of GPS or AIS signals can cause vessels to navigate in the wrong direction, potentially leading to groundings, collisions, or the diversion of vessels to locations where they can be seized. The disruption of port management systems can cause significant economic harm through delays in cargo handling and customs processing. The manipulation of manifest data can conceal contraband or misdirect cargo. And the remote disabling of vessel control systems could, in the most extreme scenario, be used to weaponize a vessel in a manner consistent with the SUA Convention's offences.

The international legal framework for maritime cybersecurity is still in its early stages of development. The IMO's Maritime Cyber Risk Management in Safety Management Systems circular of 2017, which urged shipping companies to incorporate cyber risk management into their safety management systems by 2021, was a significant first step but remains advisory rather than mandatory. The ongoing development of a mandatory framework for maritime cybersecurity through the IMO's Maritime Safety Committee is an important process in which Bangladesh should participate actively.

At the domestic level, Bangladesh has no specific legislation addressing cybersecurity in the maritime context. The Digital Security Act of 2018, which has itself been controversial and which was amended and replaced by the Cyber Security Act of 2023, provides a general legal framework for cybersecurity offences in Bangladesh, but it was not designed with the maritime context in mind and its provisions do not clearly apply to the specific vulnerabilities and threat scenarios of the maritime sector. The development of maritime-specific cybersecurity standards and the incorporation of these standards into the domestic legal framework for maritime operations is a necessary element of a comprehensive maritime security reform programme.

The jurisprudential framework for addressing maritime cybersecurity under international law is also underdeveloped. The Tallinn Manual 2.0, the authoritative scholarly analysis of how international law applies to cyberoperations, addresses the application of the laws of armed conflict to cyberoperations but does not comprehensively address the peacetime maritime security law dimensions of maritime cyberattacks. The question of whether a cyberattack on a vessel's navigation system constitutes a violation of the UNCLOS provisions on the safety of navigation, or whether it falls within the SUA Convention's offences, depends on the specific circumstances and the intent of the attacker, and these questions have not yet been definitively resolved in either treaty text or judicial decision.

3.4 The Problem of Violent Extremism at Sea: Bangladesh's Specific Context

Bangladesh has experienced significant internal security challenges related to violent extremism in recent decades, and the possibility of these challenges extending into the maritime domain cannot be ignored in a comprehensive maritime security law commentary. The Bay of Bengal has been used as a route for the movement of persons, weapons, and funding in connection with various extremist groups operating in Bangladesh and the broader region. The porous maritime

borders of the delta region, the large number of small fishing vessels that are difficult to monitor systematically, and the limited enforcement capacity of the maritime security agencies all create vulnerabilities that extremist groups could potentially exploit.

The legal framework for addressing violent extremism in the maritime context draws on both the domestic terrorism legislation and the international SUA Convention framework. The Anti-Terrorism Act of Bangladesh, as most recently amended, creates offences of terrorism, terrorist financing, and support for terrorist organisations that are broadly defined and potentially applicable to maritime activities in support of terrorism. However, the prosecution of maritime-related terrorism offences raises specific evidentiary and jurisdictional challenges that the existing legal framework does not adequately address.

The question of the treatment of persons suspected of maritime terrorism who are apprehended in Bangladesh's maritime zones is particularly complex. The obligation of extradite or prosecute under the SUA Convention requires Bangladesh to either extradite such persons to a state with jurisdiction or to prosecute them domestically. But the evidentiary challenges of maritime terrorism prosecutions, including the collection and preservation of evidence gathered at sea, the testimony of witnesses who may be foreign nationals, and the establishment of the elements of the offence beyond reasonable doubt in relation to actions taken in the maritime environment, are significant. Investment in the forensic and investigative capacity of Bangladesh's maritime law enforcement agencies is as important as the development of the substantive legal framework.

CHAPTER 4: DRUG TRAFFICKING AND HUMAN TRAFFICKING AT SEA: THE TRANSNATIONAL CRIME DIMENSION

4.1 The Maritime Drug Trade in the Bay of Bengal: Scale, Routes, and Legal Framework

The Bay of Bengal is a significant transit zone for the maritime drug trade, and Bangladesh's maritime waters are exposed to this trade in ways that impose serious law enforcement challenges and create significant harm for Bangladeshi society. The primary drugs trafficked through the Bay of Bengal maritime routes include heroin derived from the opium poppy cultivation of the Golden Triangle, the area of Myanmar, Laos, and Thailand where opium has been cultivated for centuries; methamphetamine and its derivative yaba, which has become the dominant drug of abuse in Bangladesh, particularly among young people in urban and peri-urban areas; and, increasingly, synthetic drugs manufactured in illegal laboratories in Myanmar and other regional locations.

The scale of the yaba problem in Bangladesh is difficult to overstate. Yaba, which is a combination of methamphetamine and caffeine manufactured principally in Myanmar, has been described by law enforcement authorities as a pandemic of drug abuse that affects hundreds of thousands of young Bangladeshis. A significant proportion of the yaba consumed in Bangladesh arrives by sea, crossing the maritime border between Bangladesh and Myanmar in small fishing boats and other shallow-draft vessels that can navigate the complex waterways of the Teknaf coast. The May 2025 seizure of approximately 1.8 million yaba tablets by the Bangladesh Border

Guard and coast guard in a single operation in the coastal waters of Cox's Bazar demonstrated both the scale of the trade and the capacity of Bangladeshi authorities to make significant interdictions when resources are concentrated.

The international legal framework for the suppression of drug trafficking by sea is primarily contained in Article 17 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, commonly known as the Vienna Drug Convention. Article 17 creates a system of flag state consent for the boarding and inspection of vessels reasonably suspected of trafficking in narcotic drugs or psychotropic substances on the high seas. Under this system, a state that has reasonable grounds to suspect that a vessel flying the flag of another state is engaged in illicit traffic in narcotic drugs may request authorization from the flag state to board, search, and if evidence is found, detain the vessel and its cargo. The flag state may authorize such action directly, or may authorize the requesting state to take appropriate measures in regard to that vessel.

The flag state consent system of Article 17 is, however, significantly more restrictive than the universal jurisdiction over piracy provided by UNCLOS Article 105. Unlike piracy, drug trafficking on the high seas does not give rise to universal jurisdiction; the right to board and search a vessel engaged in drug trafficking requires the consent of the flag state, which may or may not be forthcoming. This creates a significant practical obstacle to the interdiction of drug trafficking vessels on the high seas, particularly when the flag state is non-cooperative or when the vessel is flagged to a state with minimal enforcement capacity.

Bangladesh has entered into bilateral maritime law enforcement cooperation agreements with several states that provide for reciprocal boarding arrangements in connection with drug trafficking, supplementing the Article 17 framework. These bilateral arrangements are an important element of Bangladesh's maritime drug interdiction capacity, but they require regular updating to reflect evolving trafficking patterns and to incorporate modern information-sharing and operational coordination arrangements.

4.2 The UNTOC Framework and the Protocol against Smuggling of Migrants

The United Nations Convention against Transnational Organized Crime, adopted in Palermo in 2000 and in force since 2003, together with its Protocol against the Smuggling of Migrants by Land, Sea, and Air, creates the primary international legal framework for the suppression of migrant smuggling through maritime routes. Bangladesh is a state party to UNTOC and to the Protocol against Smuggling of Migrants, and these instruments create specific obligations in relation to the maritime dimension of migrant smuggling that are relevant to Bangladesh's legal and policy framework.

The Protocol against Smuggling of Migrants defines migrant smuggling as the procurement, in order to obtain, directly or indirectly, a financial or other material benefit, of the illegal entry of a person into a state party of which the person is not a national or a permanent resident. The maritime dimension is addressed in Article 8 of the Protocol, which creates a regime for the boarding of vessels reasonably suspected of being engaged in the smuggling of migrants by sea. The boarding regime is similar to the drug trafficking regime of the Vienna Drug Convention's

Article 17: boarding a foreign-flagged vessel requires either the consent of the flag state or the exercise of the more limited rights available in relation to stateless vessels.

Bangladesh's maritime zones, particularly the coastal waters of Cox's Bazar and the Teknaf peninsula, are a significant area of concern in relation to the smuggling of Rohingya refugees and economic migrants. The Rohingya humanitarian crisis, which has brought over one million Rohingya people from Myanmar to Bangladesh, has created a large population of displaced persons in Bangladesh with extremely limited legal status and economic prospects, some of whom seek to move to third countries through irregular maritime routes. The trafficking and smuggling of Rohingya persons through maritime routes, involving dangerous voyages on overcrowded and unseaworthy vessels across the Andaman Sea and beyond, has been a recurring tragedy, with multiple incidents of mass drowning and abuse during these voyages documented by human rights organisations.

The legal framework applicable to these situations is profoundly complex. The smuggling of migrants is a criminal offence under the UNTOC Protocol, and Bangladesh is required to criminalise it in domestic law and to prosecute those responsible. But the Protocol also contains an explicit provision, in Article 19, that nothing in the Protocol shall affect the other rights, obligations, and responsibilities of states and individuals under international law, including international humanitarian law and international human rights law. This includes the right of non-refoulement under the Refugee Convention of 1951 and its 1967 Protocol, which prohibits the return of a person to a country where they face persecution or serious harm.

Bangladesh is not a party to the 1951 Refugee Convention or its 1967 Protocol, and it has no domestic refugee law that provides formal legal protection for Rohingya and other persons seeking asylum. This creates a serious legal lacuna in Bangladesh's obligations under the UNTOC Protocol and the broader framework of international human rights law. The treatment of persons intercepted at sea in connection with smuggling operations, including the obligation to rescue persons in distress, the obligation of non-refoulement, and the obligation to provide access to asylum procedures, are questions that Bangladesh's maritime security legal framework must address in a manner consistent with its international human rights obligations.

4.3 Human Trafficking at Sea: The Protocol to Prevent, Suppress, and Punish Trafficking in Persons

The Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children, supplementing the UNTOC, creates a distinct legal framework for the treatment of human trafficking, which is distinguished from migrant smuggling by the element of coercion, deception, or abuse of power directed against the victim. While migrant smuggling involves the consensual procurement of illegal entry for financial gain, human trafficking involves the exploitation of persons through force, fraud, or coercion for sexual exploitation, forced labour, or other purposes.

Bangladesh is a state party to the Trafficking in Persons Protocol and has enacted domestic legislation addressing human trafficking, most notably the Human Trafficking Prevention and Suppression Act of 2012. The maritime dimensions of human trafficking in Bangladesh include

the trafficking of persons into forced labour on fishing vessels, the trafficking of persons across maritime borders for sexual exploitation, and the trafficking of domestic workers through maritime routes to Gulf countries and elsewhere.

The trafficking of persons into forced labour on fishing vessels is a particularly severe and underreported problem in the Bay of Bengal fishing industry. Investigations by human rights organisations and academic researchers have documented cases in which men and boys from poor coastal communities in Bangladesh are deceived into working on fishing vessels through false promises of payment, are then held against their will, subjected to violence and threats, and compelled to work without pay or with minimal payment. These practices meet the definition of human trafficking under the Protocol, and the fishing vessels on which they occur are sites of serious human rights violations.

The legal response to labour trafficking on fishing vessels requires both criminal enforcement action and the development of labour standards for the maritime fishing sector that are consistent with international norms. The ILO Work in Fishing Convention (Convention No. 188), which sets minimum standards for conditions of work on fishing vessels, is an instrument to which Bangladesh should accede, and the domestic legal framework for the regulation of labour conditions on fishing vessels needs to be significantly strengthened. The 2025 Bangladesh Labour Act Amendment, which extended labour law protections to seafarers for the first time, is a step in the right direction, but it does not clearly address the situation of workers on small and medium-scale fishing vessels, who are among the most vulnerable workers in Bangladesh's maritime economy.

4.4 MARPOL and Crimes Against the Marine Environment: Pollution as Maritime Crime

The conceptual framework of maritime crime is typically associated with piracy, terrorism, and trafficking. But there is a compelling argument that the deliberate pollution of the marine environment, particularly the illegal discharge of oil and other pollutants from vessels in violation of MARPOL standards, should be treated as a form of maritime crime rather than merely an administrative or regulatory violation. The scale of harm caused by illegal vessel discharges, the deliberateness of the act, and the inadequacy of administrative penalties as a deterrent all suggest that a criminal law response is appropriate and necessary.

MARPOL, the International Convention for the Prevention of Pollution from Ships, establishes comprehensive standards for the prevention of pollution from vessels, including standards for the discharge of oily mixtures, noxious liquid substances, garbage, sewage, and air pollutants. Bangladesh is a party to MARPOL and is required to implement its standards in domestic law. The Merchant Shipping Ordinance of 1983 contains some provisions implementing MARPOL, but these provisions are not comprehensive and are not adequately enforced.

The enforcement of MARPOL standards in Bangladesh's maritime zones is particularly challenging because of the limited port reception facilities at Chittagong and other Bangladeshi ports, as noted in the previous part of this commentary. When vessels calling at Bangladeshi ports cannot legally and practically discharge their oily wastes, sewage, and garbage at port, they are incentivised to discharge these wastes at sea in violation of MARPOL. Improving port

reception facilities and strengthening the enforcement of discharge standards at sea are both necessary elements of Bangladesh's response to marine pollution from vessels.

The question of the applicable law enforcement mechanism for MARPOL violations in Bangladesh's maritime zones raises interesting jurisdictional questions. In the territorial sea, Bangladesh has the right to enforce its laws against vessels in innocent passage, including environmental laws, subject to the limitations set out in UNCLOS Article 19 on the conditions for innocent passage. In the EEZ, Bangladesh has jurisdiction over the protection and preservation of the marine environment under UNCLOS Article 56(1)(b)(iii) and Article 211(5) and (6), which allows coastal states to adopt laws and regulations for the prevention, reduction, and control of pollution from vessels in their EEZ, provided these laws are consistent with the general rules, standards, and recommended practices established through the competent international organization, meaning the IMO.

The exercise of port state jurisdiction, which allows states to inspect and potentially detain vessels in their ports for violations of international maritime standards, including environmental standards, is an important complement to the flag state and coastal state jurisdiction framework. Bangladesh's port state control regime, administered through the Indian Ocean Memorandum of Understanding (IOMOU) on Port State Control, needs to be significantly strengthened, with investment in the training and equipment of port state control officers and in the legal framework for the detention and prosecution of vessels found in violation of MARPOL and other international standards.

CHAPTER 5: FLAG STATE RESPONSIBILITY IN INTERNATIONAL LAW: THEORY, DOCTRINE, AND BANGLADESH'S OBLIGATIONS

5.1 The Concept of Flag State Responsibility: From Nottebohm to the Enrica Lexie

The flag state system, as the fundamental organisational principle of maritime jurisdiction on the high seas, has been analysed in both theoretical and doctrinal terms since the codification of the law of the sea in the Geneva Conventions of 1958. The concept of flag state responsibility represents the other side of the flag state's right to exclusive jurisdiction on the high seas: if the flag state has the right to exclude other states from exercising jurisdiction over its flagged vessels, it must also bear the responsibility for ensuring that those vessels comply with international law.

The theoretical basis of flag state responsibility is grounded in the general principles of state responsibility in international law, which were codified in the Articles on Responsibility of States for Internationally Wrongful Acts adopted by the International Law Commission in 2001. Under these Articles, a state bears international responsibility for the acts and omissions of entities or persons that exercise elements of governmental authority, which in the maritime context includes the registration of vessels and the exercise of jurisdiction over those vessels on the high seas. A state that fails to exercise effective flag state control over its flagged vessels,

allowing those vessels to be used for piracy, trafficking, environmental pollution, or other violations of international law, may bear international responsibility for those violations.

The practical content of flag state responsibility has been elaborated in the jurisprudence of international tribunals. The ITLOS judgment in the M/V Saiga case (No. 2) affirmed that the flag state has the right to seek compensation on behalf of a ship, its master, crew, and owners for injuries suffered as a result of unlawful acts by other states, including unlawful arrest or excessive use of force during enforcement operations. The ITLOS judgment in the M/V Virginia G case addressed the circumstances under which the coastal state can lawfully detain a flag state's vessel for fisheries violations in the EEZ, and confirmed that the flag state has a continuing obligation to ensure that its vessels comply with the fisheries laws of coastal states in whose EEZ they operate.

The International Tribunal for the Law of the Sea's seabed disputes chamber's 2011 Advisory Opinion on the Responsibilities and Obligations of States in the Area addressed the obligations of sponsoring states in relation to contractors conducting activities in the Area, establishing a sophisticated framework of due diligence obligations that is analogous to the flag state responsibility framework for surface vessels. The Advisory Opinion confirmed that sponsoring states must adopt laws and regulations to ensure that contractors under their jurisdiction comply with the provisions of UNCLOS and ISA regulations, and that they must take all necessary and appropriate measures to ensure compliance in practice. This due diligence standard, developed in the deep seabed context, is directly relevant to the flag state responsibility framework and has influenced the interpretation of flag state obligations in the surface maritime context.

The Enrica Lexie incident, in which Italian marines aboard an Italian naval vessel shot dead two Indian fishermen whom they mistook for pirates, and the subsequent protracted jurisdictional dispute between Italy and India over the prosecution of the marines, is one of the most instructive recent illustrations of the complexities of flag state responsibility in the maritime security context. The dispute raised questions about the immunity of state officials from foreign criminal jurisdiction, the relationship between flag state jurisdiction and coastal state jurisdiction in the EEZ, and the appropriate forum for resolving disputes arising from the exercise of enforcement functions at sea. The PCA arbitral tribunal's award in the Enrica Lexie case of 2020 and the subsequent ICJ judgment on the immunity aspects have added important elements to the jurisprudence of maritime jurisdiction and responsibility.

5.2 Bangladesh as a Flag State: Obligations, Gaps, and the Challenge of Genuine Link

Bangladesh is a flag state in the international maritime law framework, with a register of ships flying the Bangladeshi flag. The Bangladesh flag state obligations under UNCLOS, MARPOL, the SOLAS Convention, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and other international maritime conventions are administered through the Department of Shipping under the Ministry of Shipping. The Merchant Shipping Ordinance of 1983 is the primary domestic legal instrument for the administration of Bangladesh's flag state functions.

Bangladesh's performance as a flag state has been the subject of scrutiny by the maritime community and by international regulatory bodies. The Chittagong-registered fleet, which includes a significant number of coastal and river vessels as well as some ocean-going ships, is subject to flag state inspection and certification requirements under the Merchant Shipping Ordinance. However, the capacity of the Department of Shipping to conduct comprehensive flag state inspections and to ensure that all Bangladesh-flagged vessels comply with international standards is limited by resource constraints, staffing levels, and training standards.

The SOLAS Convention, which sets minimum safety standards for the construction, equipment, and operation of merchant ships, was the subject of a seminar organised by the Bangladesh Maritime Law Society in September 2024, specifically on the theme of fifty years of the SOLAS Convention and its implementation in Bangladesh. The seminar highlighted both the progress made in incorporating SOLAS standards into Bangladesh's domestic framework and the significant gaps that remain in implementation and enforcement. Bangladesh's performance as a flag state in relation to SOLAS compliance has been reflected in the results of port state control inspections of Bangladesh-flagged vessels at foreign ports, which have revealed above-average rates of deficiency in some periods.

The genuine link requirement of UNCLOS Article 91, discussed in the previous chapter, raises questions about the quality of Bangladesh's flag state administration that deserve honest examination. A genuine link, at a minimum, requires that the flag state exercise effective control over the administrative, technical, and social matters of ships flying its flag. For Bangladesh, this means that the Department of Shipping must have the capacity to monitor the operational compliance of Bangladesh-flagged vessels, to investigate casualties and incidents involving those vessels, to enforce MARPOL and SOLAS standards, and to take action against vessels or operators who repeatedly violate international standards. Investment in the capacity of Bangladesh's flag state administration, including the training and certification of flag state surveyors and the development of information systems for vessel monitoring, is a necessary element of Bangladesh's flag state responsibility reform.

The 2024 World Maritime Day theme, celebrating fifty years of SOLAS, provided Bangladesh with an opportunity to undertake a systematic assessment of its SOLAS implementation. The Bangladesh Maritime Law Society's seminar on this theme, attended by maritime lawyers, academics, shipbuilders, insurers, and industry leaders, reflected the growing engagement of Bangladesh's maritime professional community with the flag state responsibility agenda. But the translation of seminar discussions into concrete legislative and institutional action requires sustained political commitment and adequate resource allocation.

5.3 Bangladesh as a Port State: Port State Control and the Mechanism of Inspection

Bangladesh's port state responsibilities are exercised principally through the Indian Ocean Memorandum of Understanding on Port State Control, which Bangladesh joined in 1998. The IOMOU is a regional port state control regime in which member states commit to conducting port state control inspections of foreign vessels calling at their ports, to sharing information about vessels with deficiencies, and to detaining vessels that fall below minimum safety and environmental standards pending rectification of the deficiencies. The IOMOU covers the Indian

Ocean region and works alongside similar regional arrangements, including the Paris MOU for the North Atlantic and the Tokyo MOU for the Asia-Pacific.

Port state control is one of the most effective mechanisms for enforcing international maritime standards, because it operates independently of the flag state and creates a practical incentive for vessel operators to maintain compliance with international standards even when the flag state's enforcement capacity is limited. A vessel that is frequently detained by port state control authorities in various countries will find its commercial prospects severely damaged, even if the flag state takes no action against it. The Port State Measures Agreement, to which Bangladesh acceded in 2016 as an important step in the effort to address IUU fishing, extends the port state control mechanism specifically to the suppression of IUU fishing, requiring port states to deny port services to vessels that are known or believed to have engaged in IUU fishing.

The effectiveness of Bangladesh's port state control regime at the ports of Chittagong, Mongla, and Payra depends critically on the training and equipment of port state control officers and on the institutional framework within which they operate. Port state control officers must be qualified surveyors with expertise in SOLAS, MARPOL, STCW, and other relevant international conventions, and they must be supported by up-to-date information systems providing access to the global database of vessel deficiency histories and outstanding detentions. The investment required to build and maintain an effective port state control capacity is significant, but it is justified by the dual benefit of enhancing maritime safety and environmental protection in Bangladesh's ports and contributing to the global system of maritime standards enforcement.

The most significant challenge for Bangladesh's port state control regime, however, is not technical capacity but jurisdiction. Bangladesh's port state control authority is clear in relation to foreign vessels voluntarily calling at Bangladeshi ports. But the exercise of port state control over vessels in anchorages, in the outer roads of Bangladesh's ports, or in the EEZ rather than the internal waters and territorial sea, raises more complex jurisdictional questions. The UNCLOS framework for port state jurisdiction, most clearly articulated in Article 218, allows the port state to undertake investigations and, where the evidence so warrants, institute proceedings in respect of any discharge from the vessel beyond the internal waters, territorial sea, or EEZ of that state, when the vessel is voluntarily within a port or at an off-shore terminal of the state. This provision enables Bangladesh to investigate MARPOL violations committed by foreign vessels in international waters, if those vessels subsequently call at Bangladeshi ports, a potentially significant enforcement tool that is underutilised in the current framework.

5.4 Coastal State Jurisdiction over Navigational Safety and Environmental Protection: UNCLOS Articles 21 and 211

The coastal state's jurisdiction over foreign vessels in its territorial sea and EEZ in relation to navigational safety and environmental protection is defined by UNCLOS Articles 21 and 211, respectively. These provisions allow the coastal state to adopt laws and regulations governing the conduct of vessels in its maritime zones, subject to specific limitations designed to protect freedom of navigation and the legitimate interests of other states.

In the territorial sea, Article 21 allows the coastal state to adopt laws and regulations relating to innocent passage covering navigational safety and the regulation of maritime traffic, the protection of navigational aids, cables, and pipelines, the conservation of living resources, the preservation of the environment, marine scientific research and hydrographic surveys, and customs, fiscal, immigration, and sanitary regulations. The laws adopted must not hamper innocent passage, and they must conform to the generally accepted international rules and standards governing navigational safety and marine pollution.

In the EEZ, Article 211(5) allows the coastal state to adopt laws and regulations for the prevention, reduction, and control of pollution from vessels, in conformity with and giving effect to generally accepted international rules and standards established through the competent international organization, namely the IMO. The coastal state may, in particular areas of its EEZ, where the adoption of special mandatory measures for the prevention of pollution from vessels is required for recognized technical reasons in relation to their oceanographical and ecological conditions, adopt additional laws and regulations for those areas, following the procedure of Article 211(6). This provision, which requires IMO approval for special area designations within the EEZ, has been used to establish Particularly Sensitive Sea Areas and Emission Control Areas in various parts of the world, and it provides a potential vehicle for the designation of special protection areas within Bangladesh's EEZ for the most ecologically sensitive portions of the Bay of Bengal.

Bangladesh has not yet utilised the Article 211(6) procedure to designate any portion of its EEZ as a special area subject to enhanced environmental standards. The designation of the Sundarbans coastal zone and the surrounding marine environment as a special area under the Article 211 framework would be consistent with both Bangladesh's domestic environmental governance interests and its international environmental obligations, including its obligations under the World Heritage Convention in relation to the Sundarbans World Heritage Site. This is a specific reform proposal that is legally well-grounded and practically significant, and it deserves serious consideration in the context of Bangladesh's maritime environmental governance reform agenda.

CHAPTER 6: THE BANGLADESH COAST GUARD: LEGAL FRAMEWORK, INSTITUTIONAL ARCHITECTURE, AND REFORM IMPERATIVES

6.1 The Historical Development of Bangladesh's Maritime Security Institutions

Bangladesh's maritime security institutional architecture has developed incrementally over the more than five decades since independence, shaped by the specific security challenges of the delta environment, by the availability of resources, and by the evolving international legal framework. Understanding this historical development is essential for evaluating the adequacy of the current institutional framework and identifying the directions for reform.

In the early years of Bangladesh's independence, the maritime security function was performed primarily by the Bangladesh Navy, inherited from the Pakistani naval forces that had been

deployed in East Pakistan and subsequently reconstituted as an independent national navy in 1971. The Bangladesh Navy played a critical role in the early years, enforcing fisheries regulations, conducting search and rescue operations, and maintaining order in Bangladesh's territorial waters. However, the Navy's primary orientation was toward national defence rather than law enforcement, and as the maritime security challenges of the civil domain grew in complexity, the need for a dedicated maritime law enforcement agency became apparent.

The Bangladesh Coast Guard was established by the Bangladesh Coast Guard Act of 2010, which created a paramilitary force under the Ministry of Home Affairs with specific responsibility for maritime law enforcement, search and rescue, and the protection of Bangladesh's maritime interests. The Act defined the Coast Guard's mandate, organizational structure, powers of arrest and inspection, and operational jurisdiction. The establishment of the Coast Guard represented a significant institutional development, creating for the first time a dedicated maritime law enforcement agency with the legal authority and operational capacity to address the growing range of maritime security threats in Bangladesh's waters.

Prior to the establishment of the Coast Guard, the maritime law enforcement function was distributed among the Bangladesh Navy, the Marine Police, the Department of Fishing (later the Department of Marine Fisheries), and the Bangladesh Water Development Board, creating coordination problems, jurisdictional overlaps, and gaps in coverage. The Coast Guard Act of 2010 attempted to rationalise this fragmented institutional landscape by creating a single primary maritime law enforcement authority, but the Act preserved the involvement of other agencies in specific aspects of maritime governance, and the coordination challenges have not been fully resolved.

6.2 The Bangladesh Coast Guard Act of 2010: A Detailed Commentary

The Bangladesh Coast Guard Act of 2010 is the primary legislative foundation for Bangladesh's primary maritime security institution, and it deserves systematic examination. The Act consists of five chapters covering the establishment and constitution of the Coast Guard, the powers and functions of the Coast Guard, the administration and finance of the Coast Guard, the discipline and service conditions of Coast Guard personnel, and miscellaneous provisions.

Chapter 2 of the Act defines the powers and functions of the Coast Guard in broad terms, including the enforcement of the laws of Bangladesh in the maritime zones, the suppression of piracy and armed robbery at sea, the prevention of smuggling, drug trafficking, and other criminal activities in the maritime zones, the protection of the marine environment, the conduct of search and rescue operations, the protection of oil and gas installations and other maritime infrastructure, and the provision of assistance to other government agencies in the performance of their maritime functions. This broad mandate is a reasonable reflection of the comprehensive maritime law enforcement role that the Coast Guard is intended to perform.

However, the Act's provisions on the specific powers of Coast Guard officers in the performance of their functions are less comprehensive than the broad mandate statement would suggest. The Act provides Coast Guard officers with the power to board and inspect vessels in Bangladesh's maritime zones, to arrest persons suspected of committing offences, to seize vessels and goods

suspected of being involved in offences, and to use reasonable force when necessary. These powers are broadly consistent with international standards for maritime law enforcement, but the Act does not specify the procedural safeguards applicable to the exercise of these powers, the human rights protections applicable to persons arrested or detained by the Coast Guard, or the oversight and accountability mechanisms applicable to Coast Guard operations.

The absence of detailed procedural provisions in the Coast Guard Act is a significant deficiency that creates both legal uncertainty and the potential for human rights violations. International human rights law, including the International Covenant on Civil and Political Rights, to which Bangladesh is a party, requires that persons arrested or detained must be informed of the reasons for their arrest, must have access to legal counsel, must be brought before a judicial authority promptly, and must be treated with respect for their dignity. These requirements apply to maritime arrests and detentions just as they apply to arrests on land, but the Coast Guard Act does not explicitly incorporate these protections or establish mechanisms for their enforcement.

The legal authority of the Coast Guard to exercise jurisdiction in Bangladesh's EEZ, as distinct from its territorial sea and internal waters, is addressed in the Act but in terms that are not entirely clear. The Act provides that the Coast Guard has jurisdiction in the maritime zones of Bangladesh, which includes the EEZ, but it does not specifically address the different legal regime applicable in the EEZ as compared to the territorial sea. In the EEZ, Bangladesh's enforcement jurisdiction over foreign vessels is more limited than in the territorial sea; it is confined to the exercise of sovereign rights for the purposes defined in UNCLOS Articles 55 to 75, and it must be exercised in accordance with the UNCLOS framework. The Coast Guard Act should explicitly incorporate these UNCLOS limitations and specify the legal basis for Coast Guard enforcement actions in the EEZ.

The coordination between the Coast Guard and the Bangladesh Navy is a recurring institutional challenge. Both agencies operate in Bangladesh's maritime zones, and their functions overlap in areas such as anti-piracy operations, drug interdiction, and fisheries enforcement. The Act provides that the Coast Guard shall coordinate with the Navy in the performance of its functions, but it does not establish a clear legal framework for this coordination, including the relative authority of the two agencies in joint operations, the rules of engagement applicable to such operations, and the mechanisms for information sharing and joint planning. A more detailed coordination framework, established either in the Coast Guard Act or in subsidiary legislation, is needed to ensure effective operational cooperation between these two critical maritime security institutions.

6.3 The Legal Powers of Search, Seizure, and Arrest at Sea: Comparative Analysis

The powers of search, seizure, and arrest at sea are the core operational tools of maritime law enforcement, and their legal basis and limitations must be clearly defined in domestic legislation to ensure both effectiveness and accountability. In comparative perspective, the legal frameworks of several states with well-developed maritime law enforcement systems provide useful models for Bangladesh's reform.

The United States Coast Guard Act grants the Coast Guard comprehensive law enforcement powers at sea, including the power to board and inspect vessels under United States jurisdiction, to board any vessel on the high seas, with reasonable cause to believe that the vessel is engaged in drug trafficking or alien smuggling, and to detain persons and seize vessels in connection with offences under United States law. The legal basis for these powers is grounded in both domestic legislation and international treaty obligations, including the specific authority created by bilateral ship-boarding agreements under Article 17 of the Vienna Drug Convention. The United States model is particularly instructive for the comprehensiveness of its legal basis for maritime law enforcement powers and the detailed procedural framework within which those powers are exercised.

The Australian Border Force, which has responsibility for maritime border protection in Australia, operates under a similarly comprehensive legal framework defined in the Migration Act 1958 and the Maritime Powers Act 2013. The Maritime Powers Act is particularly instructive, as it was specifically designed to consolidate and clarify the legal basis for maritime law enforcement powers that had previously been distributed across multiple legislative instruments. The Act creates a comprehensive framework of maritime powers, including the power to board and search vessels, to question persons, to take samples and copies of documents, to arrest persons, and to seize vessels and goods, applicable across all of Australia's maritime zones. The Act also contains detailed human rights protections, including specific provisions on the treatment of persons on vessels that have been boarded and on the rights of persons who have been arrested.

The Indian Coast Guard Act of 1978, as amended, provides another relevant comparative model. The Indian Coast Guard, which operates in a maritime environment similar to Bangladesh's in terms of the Bay of Bengal geography and the nature of the security threats, has jurisdiction over customs, fiscal, immigration, and sanitary matters in India's maritime zones, as well as specific functions relating to maritime safety, search and rescue, and the protection of the marine environment. The Indian Coast Guard Act has been amended multiple times to reflect evolving legal requirements and operational needs, and it provides a more detailed and comprehensive legal basis for maritime law enforcement than Bangladesh's 2010 Act.

Drawing on these comparative models, the following specific reforms to the Bangladesh Coast Guard Act can be proposed. First, the powers of the Coast Guard should be specified in greater detail, distinguishing between the different powers applicable in different maritime zones and in relation to different categories of vessel. Second, the procedural safeguards applicable to the exercise of maritime law enforcement powers, including the human rights protections for persons arrested or detained at sea, should be explicitly incorporated in the Act. Third, a clear coordination framework for the relationship between the Coast Guard and other maritime agencies, particularly the Navy, should be established. Fourth, an independent oversight mechanism for Coast Guard operations should be created, with authority to investigate complaints about the exercise of Coast Guard powers and to make recommendations for the improvement of Coast Guard practices.

6.4 Search and Rescue at Sea: The SOLAS and SAR Convention Obligations

The obligation to render assistance to persons in distress at sea is one of the oldest and most fundamental norms of the law of the sea, reflecting the ancient maritime tradition of solidarity among seafarers in the face of the dangers of the sea. This obligation is codified in UNCLOS Article 98, which requires every state to require the master of a ship flying its flag, insofar as he can do so without serious danger to the ship, the crew, or the passengers, to render assistance to any person found at sea in danger of being lost, to proceed with all possible speed to the rescue of persons in distress, if informed of their need of assistance, and to render assistance after a collision to the other ship, its crew, and its passengers. UNCLOS Article 98 also requires coastal states to promote the establishment, operation, and maintenance of an adequate and effective search and rescue service in areas within their jurisdiction.

The specific requirements for the organisation of search and rescue services are developed in the International Convention on Maritime Search and Rescue of 1979, known as the SAR Convention, and in the related Chapter V of the SOLAS Convention. The SAR Convention requires contracting states to establish search and rescue regions within which they are responsible for the coordination of search and rescue services, and to cooperate with neighbouring states in the provision of assistance across search and rescue region boundaries. Bangladesh is a party to the SAR Convention and has established a Maritime Rescue Coordination Centre (MRCC) at Chittagong, which is responsible for coordinating search and rescue operations in Bangladesh's search and rescue region.

The operational effectiveness of the MRCC Chittagong is a matter of ongoing concern. The MRCC requires adequate communication systems, trained personnel, coordination protocols with the Bangladesh Navy and the Bangladesh Coast Guard, and operational links with the MRCCs of neighbouring states, particularly India and Myanmar, for cross-boundary search and rescue operations. The resources available to MRCC Chittagong have historically been constrained, and the coordination between the MRCC and operational assets, including Coast Guard and Navy vessels and aircraft, has not always been seamless. Investment in MRCC capacity, including communications equipment, training, and the development of memoranda of understanding with neighbouring MRCCs, is a necessary element of Bangladesh's maritime security reform agenda.

The specific challenge of search and rescue in relation to irregular migrants at sea deserves particular attention. As noted above, the Bay of Bengal has been the site of numerous incidents involving boats carrying Rohingya refugees and other irregular migrants in distress. The obligation to rescue persons in distress at sea, which is unconditional under UNCLOS Article 98 and the SOLAS Convention, applies regardless of the nationality or legal status of the persons in distress, and regardless of the circumstances under which they came to be at sea. Bangladesh, whose maritime security agencies have encountered numerous such boats, is legally required to rescue persons in distress from these vessels, even if those persons are subsequently to be the subject of immigration enforcement action.

The treatment of persons rescued from vessels carrying irregular migrants at sea raises complex legal questions about the interaction between the duty to rescue and the principles of non-refoulement and the right to seek asylum. The UNHCR's guidelines on the treatment of persons rescued at sea, which reflect the intersection of maritime law and international refugee law,

specify that rescued persons should be taken to a place of safety, that they should be given access to asylum procedures if they seek international protection, and that they should not be returned to a country where they face persecution or serious harm. These guidelines have important implications for Bangladesh's response to persons rescued from irregular migration vessels in the Bay of Bengal, particularly given the humanitarian crisis affecting the Rohingya population.

CHAPTER 7: MARITIME SECURITY AND THE RIGHTS OF SEAFARERS: A HUMAN RIGHTS PERSPECTIVE

7.1 Seafarers as a Vulnerable Population: The International Legal Framework

The approximately 1.9 million seafarers employed in the international shipping industry occupy a uniquely vulnerable position in the global economy. They work in an isolated and dangerous environment, far from their home countries and social networks, under the authority of ship masters and shipowners whose interests may conflict with their rights and safety, and subject to the jurisdiction of states whose legal systems they may be unable to access effectively. The specific vulnerabilities of seafarers have been recognised in a series of international conventions developed by the International Labour Organization, the IMO, and through the United Nations system, and these conventions collectively form a framework of seafarer rights that Bangladesh, as both a flag state and a labour-sending state for the international shipping industry, is required to implement.

Bangladesh is a significant supplier of seafarers to the international shipping industry. Bangladeshi seafarers, trained at the Bangladesh Marine Academy in Chittagong and at other maritime training institutions, are employed on vessels flagged to countries around the world, and their remittances contribute significantly to Bangladesh's foreign exchange earnings. The welfare of Bangladeshi seafarers abroad, and the welfare of seafarers from all countries employed on Bangladesh-flagged vessels, are matters of serious domestic concern as well as international legal obligation.

The Maritime Labour Convention of 2006, known as the MLC, is the most comprehensive instrument of seafarer rights in the international framework. The MLC consolidates and updates numerous earlier IMO and ILO conventions on seafarer rights and conditions of work, and it creates a comprehensive framework covering minimum requirements for seafarers to work on a ship (covering minimum age, medical certificates, training and qualifications, and recruitment and placement); conditions of employment (covering seafarers' employment agreements, wages, hours of work and rest, entitlement to leave, repatriation, compensation for ship loss or foundering, manning levels, and career and skill development); accommodation, recreational facilities, food and catering; health protection, medical care, welfare, and social security protection; and compliance and enforcement.

Bangladesh ratified the MLC in 2014, creating a binding obligation to implement its comprehensive standards in domestic law and to enforce those standards on Bangladesh-flagged vessels and in Bangladesh's ports. The 2025 Bangladesh Labour Act Amendment, which for the

first time included seafarers in the definition of workers under the Act, is a significant step toward fuller implementation of the MLC's requirements, but it does not fully address all of the specific provisions of the Convention. A comprehensive review of Bangladesh's MLC compliance is needed, identifying the gaps between domestic law and MLC requirements and developing a legislative reform programme to close those gaps.

7.2 The Abandonment of Seafarers: A Crisis of Flag State Irresponsibility

One of the most acute manifestations of the inadequacy of the current maritime legal framework is the phenomenon of seafarer abandonment, in which shipowners leave crews stranded on vessels in foreign ports without pay, provisions, or the means to return home. The abandonment of seafarers is a violation of both the MLC and the fundamental human dignity of the persons affected, and it is a phenomenon that has grown in scale and severity in recent years, partly as a result of the COVID-19 pandemic and partly as a consequence of the financial distress of shipping companies operating in volatile markets.

The IMO and ILO jointly maintain a database of reported cases of abandonment, and the database records hundreds of cases in which seafarers have been stranded for months or even years in foreign ports. Bangladesh-flagged vessels and Bangladeshi seafarers on foreign-flagged vessels have both been involved in abandonment incidents, creating both flag state and labour-sending state obligations for Bangladesh. The MLC requires flag states to ensure that seafarers employed on vessels flying their flag have access to financial security in the event of abandonment, including through the requirement that shipowners provide financial security, such as insurance, to cover the costs of repatriation and back wages. The enforcement of this requirement by Bangladesh's flag state administration is a significant obligation that requires institutional capacity and political commitment.

The 2021 IMO/ILO guidelines on the protection of seafarers during the COVID-19 pandemic, which addressed the specific abandonment crisis generated by the closure of borders and the restriction of seafarer movements during the pandemic, created a model of cooperative action between flag states, port states, and labour-sending states that is relevant beyond the pandemic context. The principles developed in those guidelines, including the obligation of flag states to facilitate the repatriation of stranded seafarers and the obligation of port states to provide humanitarian access to seafarers on vessels in their ports, should be incorporated into the permanent framework of Bangladesh's maritime labour law.

7.3 Piracy and the Rights of Seafarer Victims

The piracy epidemic in the Gulf of Aden and the wider Indian Ocean in the late 2000s and early 2010s had severe consequences not only for maritime commerce but for the individual seafarers who were taken hostage by Somali pirates. At the peak of the piracy crisis, hundreds of seafarers were held hostage for periods of many months, subjected to violence, deprivation, and psychological abuse, while shipowners, flag states, and naval forces struggled to secure their release. The experience of piracy victims highlighted the inadequacy of the existing legal framework for the protection and support of seafarers who are victims of maritime crime.

The Djibouti Code of Conduct, adopted in 2009 as a regional instrument for the suppression of Somali piracy, and its 2017 Jeddah Amendment, which extended its scope to include other forms of maritime crime, provide a model for regional cooperation in the suppression of maritime crime that is relevant to the Bay of Bengal context. The Code of Conduct's provisions on information sharing, joint patrol and operational coordination, and the treatment of persons apprehended in connection with piracy are directly applicable to the Bay of Bengal maritime security framework, and a comparable instrument for the Bay of Bengal region would significantly strengthen the regional maritime security architecture.

Bangladeshi seafarers have been among the victims of maritime crime in various parts of the world, not only in the Bay of Bengal. The obligation of Bangladesh as a flag state and as a labour-sending state to support seafarers who are victims of maritime crime, including by providing legal assistance, consular support, and financial assistance to families, is an important dimension of Bangladesh's maritime labour obligations. The domestic legal framework for the support of seafarer victims of maritime crime is inadequate and needs to be substantially strengthened.

CHAPTER 8: REGIONAL MARITIME SECURITY COOPERATION: BIMSTEC, IORA, AND THE LEGAL ARCHITECTURE OF REGIONAL ORDER

8.1 The BIMSTEC Framework: From Trade to Security

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, known as BIMSTEC, is the primary regional organisation connecting the states of the Bay of Bengal littoral and providing a framework for regional cooperation on economic development, trade, technology, and security. BIMSTEC, established in 1997 and comprising Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan, and Nepal, has evolved from an initially trade-focused framework to one that increasingly addresses regional security challenges, including maritime security.

The BIMSTEC Agreement on Maritime Transport Cooperation, ratified in 2025 and championed at the second BIMSTEC Ports Conclave of July 2025, is the most significant recent development in the regional maritime governance framework and was noted in the preface to this treatise as one of the landmark developments of the contemporary period. This Agreement creates a legal framework for maritime transport cooperation among the BIMSTEC states, covering port development, shipping services, maritime safety, and, significantly, maritime security cooperation. The Agreement's maritime security provisions include commitments to share information about maritime threats, to coordinate law enforcement operations in the Bay of Bengal, and to develop joint training and capacity building programmes for maritime security personnel.

The jurisprudential significance of the BIMSTEC Maritime Transport Agreement is considerable. It represents the first multilateral legal instrument specifically addressing maritime security cooperation in the Bay of Bengal, filling a gap in the regional governance architecture

that has been identified by scholars and policymakers for many years. The Agreement's implementation will require the development of subsidiary legal and operational arrangements among the member states, including bilateral memoranda of understanding on information sharing and joint patrol operations, and the establishment of institutional mechanisms for the coordination of maritime security cooperation.

Bangladesh's position in the BIMSTEC maritime security framework is one of particular significance. As the only state in the Bay of Bengal with maritime boundaries with both India and Myanmar, Bangladesh occupies a geographically critical position in any regional maritime security architecture. Bangladesh's effective participation in BIMSTEC maritime security cooperation requires both the domestic legal framework to support cooperative activities, including the authority for Bangladesh's maritime agencies to share information with and operate jointly with the agencies of other BIMSTEC states, and the institutional capacity to contribute meaningfully to regional maritime security operations.

The BIMSTEC framework's maritime security agenda has been developing in a context of significant geopolitical complexity. The Bay of Bengal is not only a space of regional economic and security cooperation; it is also an arena of competition among major powers, including India, China, and the United States, each of which has significant strategic interests in the region. China's maritime activities in the Indian Ocean, including its port investments in Sri Lanka, Myanmar, and Pakistan, its submarine deployments in the Indian Ocean, and its growing commercial presence in Bangladesh, are a source of concern for India and for the United States, and they create a complex geopolitical background against which Bangladesh's maritime security cooperation choices must be made. Bangladesh has consistently sought to maintain balanced relations with all major powers and to avoid being drawn into great-power competition, a policy that is both wise and challenging to maintain as geopolitical pressures intensify.

8.2 The Indian Ocean Rim Association and Wider Regional Frameworks

The Indian Ocean Rim Association, known as IORA, is a wider regional framework encompassing the states of the Indian Ocean littoral, from South Africa to Australia, and including Bangladesh as a member. IORA's maritime security working group and its engagement with the Indian Ocean Naval Symposium provide forums for the discussion of maritime security issues at a wider regional level, complementing the more focused Bay of Bengal framework of BIMSTEC.

IORA has developed the Declaration on Principles for the Conduct of Foreign Relations, the Principles of Cooperation in the Indian Ocean Region, and various sectoral cooperation frameworks that are relevant to maritime security. The IORA Maritime Safety and Security Framework, developed through the Maritime Safety and Security Working Group, provides a basis for regional cooperation on search and rescue, marine environmental protection, and the suppression of piracy and maritime crime. Bangladesh's active engagement in IORA's maritime security processes is an important dimension of its broader ocean diplomacy.

The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia, known as ReCAAP, is another relevant regional instrument. ReCAAP, established in

2004 and currently with twenty-two contracting parties, provides an information-sharing and cooperation framework for the suppression of piracy and armed robbery in Asian waters. Bangladesh is not currently a party to ReCAAP, which is a significant gap in Bangladesh's regional maritime security engagement. The accession to ReCAAP would provide Bangladesh with access to the ReCAAP Information Sharing Centre's database of piracy and armed robbery incidents in Asia, enabling better intelligence about maritime security threats in the Bay of Bengal, and would facilitate cooperation with other ReCAAP contracting parties in responding to those threats. Bangladesh should prioritise accession to ReCAAP as a concrete step in strengthening its maritime security cooperation framework.

The United Nations Security Council resolutions on Somali piracy, particularly Resolutions 1816 and 1851 of 2008, which authorised states cooperating with the Transitional Federal Government of Somalia to enter Somali territorial waters and to use all necessary means to repress piracy and armed robbery at sea, established important precedents for the use of UN Security Council authority to enable maritime security operations beyond the normal limits of the UNCLOS framework. While no comparable Security Council authorisation has been sought or granted for piracy operations in the Bay of Bengal, the precedents set by the Somali piracy resolutions are potentially relevant if maritime security conditions in the Bay were to deteriorate sufficiently to warrant Security Council action.

8.3 The India-Bangladesh Maritime Security Relationship

The bilateral maritime security relationship between Bangladesh and India is the most significant dimension of Bangladesh's regional maritime security architecture, given the geographic position of the two countries, the shared maritime boundary, the grey area problem identified in earlier parts of this commentary, and the scale of maritime interaction between the two countries. The India-Bangladesh Maritime Security Cooperation Agreement, which provides a framework for the exchange of information, joint training, and coordinated operations between the two countries' maritime security agencies, is a foundational element of Bangladesh's regional maritime security framework.

The joint operation known as Coordinated Patrol, or CORPAT, conducted periodically between the Indian Coast Guard and the Bangladesh Coast Guard, is the most visible expression of bilateral maritime security cooperation. CORPAT operations involve the coordinated patrol of the maritime boundary between the two countries, with the aim of deterring illegal activities in the boundary zone and improving the operational coordination between the two coast guards. The legal framework for CORPAT operations is established in the bilateral agreements between the two countries, but this framework needs to be updated and strengthened to reflect the current security environment and to incorporate the latest developments in regional maritime cooperation.

The grey area problem, as described in Part One of this commentary, creates specific challenges for the bilateral maritime security relationship with India. The grey area, in which Bangladesh has continental shelf rights in the seabed while India has EEZ rights in the superjacent water column, creates jurisdictional complexity in relation to maritime security operations in that area. A vessel engaged in illegal fishing or hydrocarbon theft in the grey area may be subject to

enforcement action by both Bangladesh and India, depending on the specific nature of the offence and the precise location within the grey area. A bilateral framework for the cooperative management of the grey area, addressing both resource development and security governance, is urgently needed and would be a major contribution to the stability and clarity of the bilateral maritime legal relationship.

8.4 The Bangladesh-Myanmar Maritime Security Relationship: Challenges and Opportunities

The bilateral maritime security relationship between Bangladesh and Myanmar is more complex and politically sensitive than the relationship with India, reflecting the deeper difficulties in the bilateral political relationship between the two countries. The Rohingya crisis, which has generated more than one million refugees in Bangladesh and which continues to be a source of profound humanitarian suffering and bilateral tension, casts a shadow over the entire maritime security relationship. The Myanmar junta's continued refusal to accept the return of Rohingya refugees, its conduct of military operations against civilian populations in Rakhine State, and its relationship with various armed groups operating in the border region all create challenges for bilateral maritime security cooperation.

At the same time, the maritime boundary between Bangladesh and Myanmar, settled by the ITLOS judgment of 2012, creates a framework for the exercise of respective maritime jurisdiction that requires effective bilateral coordination, particularly in the enforcement of fisheries regulations, the suppression of drug trafficking across the maritime border, and the conduct of search and rescue operations in the boundary zone. The practical maritime security challenges along the Bangladesh-Myanmar maritime boundary, including the cross-border drug trade, the movement of Rohingya refugees, and the activities of armed groups in the Rakhine coastal area, make bilateral cooperation imperative even in the context of the broader political difficulties.

Bangladesh has maintained a pragmatic approach to the maritime dimension of the relationship with Myanmar, seeking to sustain practical law enforcement cooperation on specific issues while maintaining its political position in relation to the Rohingya crisis. The legal framework for this pragmatic cooperation needs to be developed and formalised, including through bilateral agreements on information sharing, joint patrol operations, and the treatment of persons apprehended in the maritime boundary zone.

CHAPTER 9: MARITIME SECURITY AND NATIONAL SECURITY LAW: THE INTERSECTION OF INTERNATIONAL AND DOMESTIC LEGAL FRAMEWORKS

9.1 The Constitutional Framework for Maritime Security in Bangladesh

The Constitution of Bangladesh, adopted in 1972 and significantly amended in subsequent decades, provides the constitutional foundation for Bangladesh's exercise of state power in the maritime domain, including the exercise of maritime security functions. The Constitution does

not contain specific provisions addressing maritime jurisdiction or maritime security, but the general constitutional framework for the exercise of executive and legislative power, the protection of fundamental rights, and the organisation of the state's security apparatus is relevant to the maritime security context.

Article 1 of the Constitution declares Bangladesh to be a unitary, independent, sovereign republic, which encompasses Bangladesh's maritime territory as part of the national territory over which sovereignty is exercised. The sovereign rights of Bangladesh in its EEZ and continental shelf, which are not sovereignty in the full territorial sense but are sui generis rights recognised under UNCLOS, are exercised by the government of Bangladesh as an incident of the broader sovereign authority of the state.

The fundamental rights provisions of Part III of the Constitution, particularly the right to life and personal liberty guaranteed by Article 32, the right to protection against arbitrary arrest and detention guaranteed by Article 33, and the right to a fair trial guaranteed by Article 35, apply to all persons within the jurisdiction of Bangladesh, including persons arrested and detained by the Bangladesh Navy or Coast Guard in Bangladesh's maritime zones. The constitutional protections of fundamental rights must be taken seriously in the design and implementation of maritime security legislation and operations, even when the security imperatives of maritime law enforcement create pressures toward more restrictive approaches.

The Constitution's provisions on the organisation of the state's security forces, particularly Article 61, which makes the President the Supreme Commander of the Bangladesh Defence Forces, and the provisions on the role of the military in internal security, are relevant to the relationship between the Bangladesh Navy and the Bangladesh Coast Guard in the maritime security context. The Navy, as part of the Bangladesh Defence Forces, operates under the military command structure ultimately accountable to the President, while the Coast Guard, as a paramilitary force under the Ministry of Home Affairs, is part of the civilian law enforcement architecture. The constitutional framework for the relationship between these two institutions in maritime security operations needs to be clearly understood and, where necessary, clarified through legislation.

9.2 The Security Laws of Bangladesh and Their Maritime Dimension

Bangladesh has a significant body of security legislation that has developed in response to the specific security challenges of its history, including the liberation war of 1971, the political instability of subsequent decades, and the more recent challenges of violent extremism. The intersection of this security legislation with the specific requirements of maritime security law is an area that has received insufficient attention in both academic commentary and legislative drafting.

The Special Powers Act of 1974, which provides for preventive detention without trial in the interest of security of the state, prevention of acts prejudicial to the sovereignty or defense of Bangladesh, or maintenance of public order, has potentially significant implications for maritime security operations. Persons suspected of serious maritime security threats, including maritime terrorism or large-scale drug trafficking, might be subject to preventive detention orders under

the Special Powers Act. The compatibility of such orders with Bangladesh's obligations under the ICCPR and with the specific standards applicable to persons detained at sea under the UNCLOS framework is a question that has not been addressed by courts or scholars.

The Counter Terrorism and Transnational Crime Unit of the Bangladesh Police, established in 2016 as a specialised unit for the investigation and prosecution of terrorism and transnational crime cases, has maritime dimensions to its mandate that require coordination with the maritime security agencies. The investigation of maritime drug trafficking, maritime terrorism, and human trafficking cases that originate in the maritime zone requires the collection and preservation of evidence gathered at sea, the cooperation of maritime agencies in the investigation, and the development of specialised expertise in maritime law enforcement investigations. The institutional framework for this coordination between maritime and land-based law enforcement agencies is not fully developed, and it represents an important area for institutional reform.

9.3 The Anti-Money Laundering Framework and Maritime Crime Proceeds

The proceeds of maritime crime, including drug trafficking, human trafficking, illegal fishing, and maritime robbery, are a significant source of illicit finance that flows through Bangladesh's financial system and into the broader economy. The effective suppression of maritime crime requires not only the enforcement of maritime security laws but also the disruption of the financial networks through which the proceeds of maritime crime are laundered and reinvested.

Bangladesh's Anti-Money Laundering Act of 2012 and the Anti-Terrorism Act, as amended, create the primary legal framework for the suppression of money laundering and the financing of terrorism, including the financial proceeds of maritime crime. Bangladesh is a member of the Asia-Pacific Group on Money Laundering, which coordinates anti-money laundering and counter-terrorism financing efforts in the Asia-Pacific region, and is subject to the standards and recommendations of the Financial Action Task Force.

The application of the anti-money laundering framework to maritime crime requires the development of specific guidance for financial institutions and other reporting entities on the indicators of money laundering associated with maritime crime proceeds, and the training of law enforcement and financial intelligence personnel in the identification and investigation of maritime crime-related financial flows. The Bangladesh Financial Intelligence Unit, which receives and analyses suspicious transaction reports and other financial intelligence, should develop specific typologies and guidance on maritime crime money laundering, in cooperation with the maritime security agencies.

CHAPTER 10: THE COMPREHENSIVE REFORM AGENDA: A LEGISLATIVE AND INSTITUTIONAL BLUEPRINT

10.1 The Case for a Comprehensive Maritime Security Act

The analysis in the preceding chapters has identified a systematic pattern of deficiencies in Bangladesh's maritime security legal framework: fragmentation of authority among multiple agencies without clear coordination mechanisms; inadequate incorporation of international legal standards; insufficient procedural protections for persons subject to maritime enforcement operations; gaps in the criminalisation of maritime offences; and inadequate institutional capacity in the maritime security agencies. These deficiencies collectively make a compelling case for a comprehensive legislative reform, specifically the enactment of a Maritime Security Act that consolidates, updates, and systematises the domestic legal framework for maritime security governance.

The proposed Maritime Security Act should be structured around several key themes. First, it should establish a clear and comprehensive framework of maritime offences, incorporating the full range of offences defined in UNCLOS, the SUA Convention, the UN Drug Convention, the UNTOC Trafficking Protocol, and other relevant international instruments, in language that is accessible and consistent with the domestic criminal law framework. Second, it should define the enforcement powers of the Bangladesh Navy, the Bangladesh Coast Guard, and other relevant agencies in Bangladesh's maritime zones, specifying the different powers applicable in different zones, the procedures to be followed in the exercise of those powers, and the oversight and accountability mechanisms applicable to enforcement operations. Third, it should establish a clear and comprehensive framework of procedural protections for persons subject to maritime enforcement operations, including the rights of persons arrested or detained at sea, the standards for the collection and admissibility of evidence gathered in maritime operations, and the mechanisms for the compensation of persons wrongly subjected to enforcement action. Fourth, it should establish the institutional framework for coordination among Bangladesh's maritime security agencies, including the National Maritime Security Committee proposed below, and define the respective mandates and operational jurisdictions of the Navy, the Coast Guard, and other relevant agencies.

10.2 Institutional Reform: The National Maritime Security Committee and the Maritime Enforcement Agency

The fragmentation of maritime security responsibilities among the Bangladesh Navy, the Bangladesh Coast Guard, the Marine Police, the Department of Marine Fisheries, the Customs Department, the Department of Immigration, and other agencies creates coordination challenges that undermine the effectiveness of maritime security governance. The establishment of a National Maritime Security Committee, under the chairmanship of the Minister responsible for maritime affairs and with membership drawn from all relevant agencies, would provide a mechanism for strategic coordination and policy integration across the maritime security architecture.

The National Maritime Security Committee should be established in statute, with a clear mandate to develop a National Maritime Security Strategy, coordinate the operational activities of the maritime security agencies, review the effectiveness of maritime security legislation and operations, and engage with international and regional maritime security frameworks. The Committee should be supported by a permanent secretariat with the capacity to conduct policy

analysis, coordinate information sharing among member agencies, and manage Bangladesh's engagement in the BIMSTEC, IORA, and ReCAAP frameworks.

A further institutional reform that deserves consideration is the establishment of a specialised Maritime Enforcement Agency, modelled on examples from comparable jurisdictions, to take over the civilian maritime law enforcement functions currently performed by a combination of the Coast Guard, the Marine Police, and the fisheries administration. Such an agency would consolidate enforcement authority, eliminate jurisdictional overlaps, and allow for the development of specialised expertise in maritime law enforcement. The creation of a Maritime Enforcement Agency is, however, a more fundamental institutional change than the other reforms proposed, and it would require careful political management to address the institutional interests of the agencies affected. It is presented here as a medium-term goal for maritime institutional reform, to be pursued after the more immediate reforms of the Coast Guard Act and the overall maritime security legal framework have been achieved.

10.3 The Prosecution Framework: Specialised Maritime Crime Courts and Prosecutorial Capacity

The effective prosecution of maritime crimes requires not only adequate substantive law and enforcement powers but also a prosecutorial and judicial infrastructure capable of handling the specific evidentiary and procedural challenges of maritime crime cases. The collection and preservation of evidence gathered at sea, the testimony of witnesses who are foreign nationals or members of vessel crews, the technical complexity of cases involving navigation, vessel operations, and maritime commercial practice, and the often lengthy and difficult circumstances of detention pending trial all create challenges that require specialised attention in the prosecution and judicial framework.

The establishment of specialised maritime crime courts, as proposed in a 2025 article on maritime security and deterrence in Bangladesh published in The Daily Star, deserves serious consideration. Such courts would be staffed by judges with specific training in maritime law and would develop the specialised expertise necessary to handle the complex evidentiary and legal issues that maritime crime cases raise. The article specifically suggested the establishment of special courts in Khulna and Chattogram, the two major maritime regions of Bangladesh, which would improve access to justice for maritime crime victims and witnesses and would reduce the delays associated with transferring maritime cases to courts in Dhaka.

The capacity of Bangladesh's public prosecution service to handle maritime crime cases is currently limited. The complex legal framework applicable to maritime crimes, involving multiple international conventions, domestic statutes from different periods, and intricate jurisdictional questions, requires prosecutorial expertise that is not widely available in Bangladesh's legal profession. The development of specialised maritime law units within the Attorney General's office and the public prosecution service, staffed by lawyers with training in international maritime law and maritime security, is a necessary investment in the prosecutorial infrastructure for maritime security governance.

The evidentiary framework for maritime crime prosecutions deserves specific legislative attention. The collection of evidence at sea raises challenges that do not arise in land-based criminal investigations: the physical conditions under which searches and seizures are conducted, the preservation of electronic evidence from vessel navigation and communication systems, the photographing and documentation of vessel conditions and cargo, and the chain of custody requirements for evidence gathered on vessels that may subsequently be released or destroyed all require specific procedural rules that the general framework of Bangladesh's Evidence Act and Code of Criminal Procedure does not adequately address. The proposed Maritime Security Act should contain specific evidentiary provisions for maritime crime cases.

10.4 International Treaty Obligations: The Reform Ratification Agenda

The review of Bangladesh's participation in international maritime security instruments reveals several significant gaps that should be addressed through an active treaty ratification programme. The following instruments represent the highest priorities for Bangladesh's treaty ratification agenda in the maritime security domain.

The 2005 SUA Protocol, amending the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, should be ratified and incorporated into domestic law. The Protocol's provisions on maritime terrorism, the transport of weapons of mass destruction, and the boarding of vessels are directly relevant to Bangladesh's maritime security situation and to its obligations as a member of the international counter-terrorism framework.

The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia, known as ReCAAP, should be acceded to by Bangladesh. The information-sharing framework of the ReCAAP Information Sharing Centre is a valuable intelligence resource for states engaged in anti-piracy and anti-maritime crime operations in Asian waters, and Bangladesh's absence from this framework is a significant gap in its regional maritime security engagement.

The Work in Fishing Convention of the ILO (Convention No. 188), which sets minimum standards for conditions of work on fishing vessels, should be ratified and implemented in domestic law. Given the importance of the fisheries sector to Bangladesh's economy and the documented prevalence of labour exploitation on fishing vessels in the Bay of Bengal, the implementation of ILO 188 standards would both protect a vulnerable workforce and contribute to Bangladesh's reputation as a responsible maritime labour state.

The MARPOL Annex VI, addressing air pollution from ships, should be accepted by Bangladesh. Given the 2024 ITLOS Advisory Opinion's confirmation that greenhouse gas emissions constitute marine pollution under UNCLOS, the acceptance of MARPOL Annex VI is now not merely a matter of environmental policy but a dimension of Bangladesh's UNCLOS due diligence obligations. The implementation of Annex VI standards would require investment in monitoring capacity and in the training of surveyors, but it would also position Bangladesh as a progressive flag state engaged with the IMO's decarbonisation agenda.

10.5 Capacity Building: Technology, Training, and Infrastructure

The most sophisticated legal framework in the world cannot deliver effective maritime security governance without the institutional capacity to implement and enforce it. Bangladesh's maritime security reform agenda must therefore include significant investment in the capacity of its maritime security agencies, including both human resources and technological infrastructure.

On the technological side, the priority investments should include a Vessel Monitoring System covering all commercial fishing vessels and all registered vessels in Bangladesh's maritime zones; a Maritime Domain Awareness system providing real-time situational awareness of vessel movements throughout Bangladesh's EEZ; Automatic Identification System shore stations along the entire Bangladeshi coast; a digital radio communications network integrating all maritime agencies; and enhanced port security infrastructure at Chittagong, Mongla, and Payra, including X-ray scanning equipment for containers, vehicle screening systems, and access control technology.

On the human resources side, the priority investments should include specialised maritime law enforcement training for Coast Guard, Navy, and Marine Police personnel; training in maritime law for prosecutors and judges; capacity building for flag state and port state control surveyors; development of a national maritime domain awareness analytical capability; and strengthening of the MRCC Chittagong's operational capacity. Bangladesh should leverage the training and capacity building opportunities available through BIMSTEC, IORA, the IMO's Integrated Technical Cooperation Programme, and bilateral partnerships with states including India, Japan, Australia, and the United States, all of which have expressed interest in supporting Bangladesh's maritime security capacity.

The infrastructure dimension of maritime security capacity includes not only technology and equipment but also the physical infrastructure required for effective maritime operations. The development of Bangladesh's port infrastructure, including the Matarbari deep-water port, the expansion of Mongla port, and the development of Payra as a fully functional port, creates opportunities for the integration of maritime security infrastructure into port development planning. The design of new port facilities should incorporate the security requirements of the ISPS Code, the facility management systems required by the MLC, and the environmental management infrastructure required by MARPOL, creating a comprehensive maritime governance infrastructure that serves both commercial and security functions.

10.6 The Political Economy of Maritime Security Reform: Interests, Incentives, and the Path to Change

The legal and institutional reforms proposed in this Part are individually well-supported by the analysis of both the legal framework and the operational reality of Bangladesh's maritime security situation. But comprehensive legal and institutional reform of the kind proposed here does not happen automatically in response to the identification of legal gaps; it requires political will, the alignment of institutional interests, and the mobilisation of the resources necessary for implementation. Understanding the political economy of maritime security reform is therefore an important complement to the legal analysis.

The stakeholders in Bangladesh's maritime security reform process include the government ministries with responsibilities for maritime affairs, including the Ministry of Shipping, the Ministry of Home Affairs, the Ministry of Defence, the Ministry of Fisheries and Livestock, and the Ministry of Environment, Forest and Climate Change; the maritime security agencies, including the Bangladesh Navy and the Bangladesh Coast Guard; the commercial maritime industry, including shipowners, port operators, freight forwarders, and maritime insurers; the fishing industry, including both industrial trawler operators and small-scale artisanal fishers; the legal profession, including maritime lawyers and academics; civil society organisations working on human rights, environmental protection, and the welfare of coastal communities; and international partners, including the IMO, the ILO, the FAO, UNCTAD, and the bilateral development partners.

Each of these stakeholders has specific interests in the maritime security reform process, and these interests are not always aligned. The commercial maritime industry's interest in a clear and stable regulatory framework may conflict with the fiscal interest of government agencies in maintaining discretionary authority and the associated revenue. The fishing industry's interest in protecting access to marine resources may conflict with the environmental interest in stricter fisheries management. The human rights interest in procedural protections for persons subject to maritime enforcement action may conflict with the security interest in effective and swift enforcement operations. Managing these tensions through a reform process that is inclusive, transparent, and politically sustainable is as important as getting the technical legal content right.

The July Revolution of 2024 and the subsequent formation of the interim government of Bangladesh created both opportunities and challenges for maritime security reform. The political disruption of the revolution created a window of opportunity for institutional and legal reform that might not exist in normal political conditions. The interim government's stated commitment to comprehensive governance reform, reflected in the establishment of multiple reform commissions covering different sectors of public life, provides a framework within which maritime security reform can be advanced. The establishment of a dedicated Maritime Law and Security Reform Commission, building on the model of the Labour Reform Commission that produced the 2025 Bangladesh Labour Act Amendment, would be an appropriate vehicle for the comprehensive and systematic review and reform of Bangladesh's maritime security legal framework.

CHAPTER 11: JURISPRUDENTIAL REFLECTIONS ON MARITIME SECURITY LAW: ORDER, JUSTICE, AND THE COMMONS

11.1 Maritime Security and the Theory of International Order

The law of maritime security is, at its most fundamental level, an expression of the theory of international order that underlies the entire structure of international law. The question of how order is maintained in a space that is, in the classic Hobbesian formulation, beyond the jurisdiction of any single sovereign, is both a practical question about the design of enforcement mechanisms and a profound philosophical question about the nature of law and authority.

Thomas Hobbes, writing in Leviathan in 1651, argued that in the state of nature, which is the condition of the absence of sovereign authority, life is solitary, poor, nasty, brutish, and short, and that the fundamental purpose of the state is to escape this condition by establishing a sovereign authority capable of enforcing law and maintaining order. The application of this Hobbesian framework to the maritime domain suggests that the high seas, as a space without sovereign authority, are inherently a state of nature, subject to the law of the strongest rather than the law of law. The response of the international legal system to this challenge has been the construction of the UNCLOS framework of flag state jurisdiction, universal jurisdiction over pirates, and cooperative enforcement arrangements, which together create a form of international authority over the maritime commons without establishing a single sovereign ruler of the seas.

Immanuel Kant's vision of a federation of free states, developed in Perpetual Peace published in 1795, provides a different philosophical framework for understanding maritime security governance. Kant argued that the condition of peace among nations requires not merely the absence of war but the establishment of a federation of states committed to the rule of law and to the resolution of disputes by legal means rather than force. The UNCLOS framework, with its dispute settlement provisions, its institutional machinery, and its comprehensive normative content, represents a realisation of something like the Kantian federation in the maritime domain. The maintenance of maritime security is, in this perspective, not merely a law enforcement function but a contribution to the construction of a legal order among states that is the precondition of durable peace.

The cosmopolitan perspective, associated most recently with the work of Jürgen Habermas and Seyla Benhabib, directs attention to the claims of individuals as well as states in the maritime security framework. A cosmopolitan theory of maritime security would require that the rules governing maritime enforcement operations respect the fundamental rights of all persons subject to those operations, regardless of their nationality or the flag of the vessel on which they are found, and that the international maritime security framework be designed with the interests of the most vulnerable persons, including seafarers, fishers, migrants, and maritime workers, at its center rather than as a secondary consideration.

This cosmopolitan perspective resonates with the growing body of international human rights law applicable to maritime security operations, including the obligations of states toward persons rescued at sea, the prohibition of collective punishment and arbitrary detention, and the principle of non-refoulement. It also resonates with the argument, developed in Chapter 1 of this Part, that the conditions of poverty, ecological devastation, and political marginalisation that drive maritime crime must be addressed alongside the enforcement of criminal law if maritime security is to be genuinely and durably achieved.

11.2 The Common Heritage Principle and Maritime Security: An Underexplored Connection

The common heritage of mankind principle, discussed in earlier parts of this commentary in the context of deep seabed resources and the BBNJ Agreement, has an underexplored dimension in the maritime security context. If the oceans are in some meaningful sense the common heritage of all people, then the obligation to protect the security of the maritime commons is not merely

the interest of coastal states or flag states; it is the shared responsibility of all members of the international community.

This understanding of maritime security as a matter of common concern, rather than merely a matter of state interest, has implications for the design of international maritime security governance. It suggests that the costs of maritime security governance should be borne collectively by the international community, not merely by the coastal states directly affected by maritime insecurity. It also suggests that the benefits of maritime security, including the security of international trade, the protection of marine resources, and the safety of persons at sea, are common goods to which all states are entitled and for which all states share responsibility.

The practical expression of this principle in contemporary maritime security governance is the sharing of the costs of anti-piracy operations through mechanisms such as the SHADE (Shared Awareness and Deconfliction) mechanism established in connection with the international naval operation against Somali piracy, and the funding of capacity building for maritime security in developing states through IMO's integrated technical cooperation programme and bilateral aid arrangements. For Bangladesh, the common heritage perspective supports the claim that the international community, including the major maritime powers whose trade benefits from the security of the Bay of Bengal, has a responsibility to contribute to the costs of Bangladesh's maritime security governance, through capacity building, technology transfer, and financial support.

11.3 Legal Positivism, Natural Law, and the Foundation of Maritime Criminal Jurisdiction

The theoretical foundation of universal jurisdiction over pirates, the oldest and most established form of maritime security jurisdiction, raises fundamental questions about the relationship between legal positivism and natural law in the foundation of international criminal law. On a strictly positivist view, universal jurisdiction over pirates is justified because it has been incorporated in positive international law through custom and treaty, most recently through the codification in UNCLOS Article 105. The pirate is subject to the jurisdiction of all states not because of any inherent moral characteristic that places him outside the community of law but because international law has so determined.

On a natural law view, the universal jurisdiction over pirates is justified by the inherent character of piracy as a crime against the natural order of international commerce and communication. The hostis humani generis concept, as elaborated by Grotius and Cicero, reflects a natural law intuition that some forms of violence are so fundamentally contrary to the basic conditions of human society that they warrant a universal response, regardless of the particular legal arrangements of any specific time or place. This natural law foundation for universal jurisdiction has been invoked in the context of international criminal law more broadly, including in the Nuremberg judgments, in the development of the doctrine of crimes against humanity, and in the Rome Statute of the International Criminal Court.

The tension between positivist and natural law foundations for maritime security jurisdiction is not merely theoretical; it has practical implications for the scope and limits of the jurisdiction that states may exercise. If universal jurisdiction is grounded in positive law, then its scope is

limited to what positive law has prescribed; states may not extend their jurisdiction beyond the specific categories of maritime crime for which universal jurisdiction has been established in treaty or custom. If universal jurisdiction has a natural law foundation, then it may potentially be extended to new categories of maritime crime that share the essential characteristics of piracy as a threat to the basic conditions of international order, even without specific treaty authority.

This question has become relevant in the context of maritime terrorism, where scholars and some states have argued that maritime terrorist acts should be treated as subject to universal jurisdiction on the ground that they are, like piracy, crimes against the basic conditions of international commerce and order. The SUA Convention does not establish universal jurisdiction in the strict sense; it creates a framework of multiple bases of jurisdiction supplemented by the obligation of extradite or prosecute. Whether customary international law has evolved to establish universal jurisdiction over maritime terrorism, independently of treaty obligation, is a question on which scholarly opinion is divided and international courts have not definitively ruled.

For Bangladesh, the theoretical underpinning of maritime security jurisdiction is not a merely academic question; it determines the outer limits of the jurisdiction that Bangladesh may lawfully claim and exercise, and it shapes the arguments that Bangladesh can make in international fora in support of its maritime security operations. A legal framework that is grounded in a coherent and defensible jurisprudential theory, whether positivist, natural law, or a sophisticated synthesis, is more likely to be consistently applied and internationally respected than one that is merely pragmatic in its claims and unexamined in its foundations.

CHAPTER 12: THE EMERGING FRONTIERS: AUTONOMOUS VESSELS, ARTIFICIAL INTELLIGENCE, AND THE FUTURE OF MARITIME SECURITY LAW

12.1 Autonomous Maritime Vehicles and the Legal Framework: Terra Incognita

The rapid development of autonomous and remotely operated maritime vehicles, from small unmanned surface vessels to fully autonomous cargo ships, is creating legal challenges that the existing maritime security framework was not designed to address. The UNCLOS framework, the SUA Convention, the SOLAS Convention, and other international maritime instruments were all designed with crewed vessels in mind, and their provisions on flag state responsibility, the right of visit, innocent passage, and the law of the sea generally assume that vessels are operated by human crews who make navigational decisions and are capable of being held legally responsible for those decisions.

Autonomous vessels operated by artificial intelligence systems challenge these assumptions at every level. If a vessel is operated by an AI system with no human crew on board, who is the master for the purpose of the obligation to render assistance to persons in distress? Who is the operator for the purpose of MARPOL discharge standards? Who is legally responsible if the vessel commits acts that would constitute piracy or armed robbery at sea if committed by a crewed vessel? These are not merely hypothetical questions; they are becoming practical

challenges as autonomous maritime vehicles are deployed in commercial and research applications and as the development of fully autonomous cargo ships, which some industry projections suggest could enter commercial service in significant numbers by the early 2030s, approaches reality.

The IMO's Regulatory Scoping Exercise on Maritime Autonomous Surface Ships, which assessed the implications of autonomous vessel technology for international maritime instruments and identified the regulatory provisions that would need to be amended to accommodate autonomous vessels, produced its initial report in 2021 and has continued to develop. The work of the IMO's Legal Committee on the legal implications of autonomous vessels, including questions of liability, insurance, and the application of SOLAS and MARPOL, is ongoing. Bangladesh should engage actively in this process, since the adoption of autonomous vessel technology by the international shipping industry will affect Bangladesh's interests as a flag state, a port state, and a coastal state.

The cybersecurity dimension of autonomous vessels, which are inherently dependent on digital communication systems for remote operation and navigation, is particularly significant from the maritime security perspective. A remotely operated vessel that is hacked could potentially be used as a weapon, directed to collide with other vessels or with port facilities, or its navigation data could be manipulated to cause a grounding or collision. The SUA Convention's provisions on the use of a ship as a weapon, introduced in the 2005 Protocol, are potentially applicable to such scenarios, but the attribution of responsibility when a vessel has been hacked rather than crewed by human actors raises complex questions about state responsibility and criminal liability.

12.2 Artificial Intelligence in Maritime Domain Awareness

The application of artificial intelligence to maritime domain awareness, the comprehensive understanding of vessel movements, activities, and identities in a maritime zone, represents both a significant opportunity for improving maritime security governance and a source of new legal challenges. AI-powered maritime domain awareness systems can process vast quantities of data from AIS transponders, radar systems, satellite imagery, and other sources, identifying anomalies in vessel behaviour that may indicate piracy, IUU fishing, drug trafficking, or other maritime crime, and enabling enforcement agencies to direct their resources more effectively.

Bangladesh has an interest in developing AI-enhanced maritime domain awareness capacity, and the technical assistance of international partners, including Japan and Australia, both of which have significant capacity in maritime domain awareness technology, could potentially be leveraged for this purpose. The legal framework for the use of AI-derived intelligence in maritime enforcement operations, however, needs to be carefully considered. The use of AI predictions as the basis for enforcement actions, including boarding and inspection operations, raises questions about the standard of proof required for the exercise of the right of visit and the right of hot pursuit, about the accuracy and reliability of AI systems in the identification of suspicious vessel behaviour, and about the accountability mechanisms applicable when AI-driven enforcement actions prove to be unjustified.

The principle of human control over enforcement decisions, which is increasingly recognised as a fundamental principle in the application of AI to law enforcement contexts, is particularly important in the maritime setting, where enforcement actions can have severe consequences for the persons and vessels subjected to them. Bangladesh's maritime security legislation should explicitly require that enforcement decisions, including decisions to board and inspect foreign vessels, be made by authorised human officers rather than by automated systems, even when those decisions are informed by AI-derived analysis. The role of AI should be to support and enhance human decision-making, not to replace it.

12.3 Climate Change and Maritime Security: The Ecological Security Dimension

The relationship between climate change and maritime security is increasingly recognised by security analysts, policymakers, and international institutions as a significant dimension of the maritime security challenge that deserves systematic attention. Climate change is reshaping the maritime security environment in multiple ways: altering the distribution of marine resources and thereby generating new conflicts over access; displacing coastal and island populations and generating new flows of maritime migration; reducing the navigability of certain coastal areas through sea-level rise, erosion, and the intensification of cyclonic events; and creating new competition for the resources of previously inhospitable maritime areas such as the Arctic as ice cover recedes.

For Bangladesh, the climate-security nexus is particularly acute. The sea-level rise and increased cyclonic intensity associated with climate change are projected to displace tens of millions of people from Bangladesh's coastal areas over the coming decades, generating a massive population movement that will create humanitarian crises, resource competition, and potential instability. The anticipated displacement of coastal populations is already a source of internal migration and will likely generate increased outflows of irregular maritime migration toward neighbouring states and beyond. The maritime security implications of this displacement, including the increased demand for people-smuggling services, the potential for conflict over resources in coastal areas, and the security challenges of managing large displaced populations in coastal Bangladesh, are significant and need to be incorporated into Bangladesh's maritime security strategic planning.

The 2024 ITLOS Advisory Opinion's confirmation that anthropogenic greenhouse gas emissions constitute marine pollution under UNCLOS, as analysed in previous parts of this commentary, creates a legal dimension to the climate-security nexus that goes beyond the security policy analysis. If greenhouse gas emissions are marine pollution, then the major emitting states bear legal responsibility for the maritime security consequences of the ecological damage they cause, including the displacement of coastal populations and the generation of maritime migration flows. This argument, while legally innovative, is grounded in the Advisory Opinion's reasoning and could potentially be developed in international legal proceedings as part of Bangladesh's broader climate justice advocacy.

CHAPTER 13: TOWARDS A PHILOSOPHY OF MARITIME SECURITY LAW FOR THE TWENTY-FIRST CENTURY: BANGLADESH'S CONTRIBUTION

13.1 Beyond Enforcement: Maritime Security as a Dimension of Human Security

The dominant paradigm of maritime security law is enforcement-centred: it focuses on the powers of states to identify, apprehend, and punish those who violate the laws of the sea. This enforcement-centred paradigm is necessary and important, but it is insufficient as a comprehensive framework for maritime security governance in the twenty-first century. A more adequate framework must also address the structural conditions that generate maritime insecurity, including poverty, ecological degradation, inadequate livelihood options, political marginalisation, and the displacement associated with climate change.

The concept of human security, developed by the United Nations Development Programme in its Human Development Report of 1994, offers a broader framework for understanding security that encompasses not only freedom from physical violence but also freedom from want and freedom from fear in the widest sense. Applied to the maritime domain, human security requires that Bangladesh's maritime security framework address not only the apprehension of pirates and traffickers but also the protection of the livelihoods of coastal fishing communities, the environmental sustainability of marine resources, the labour rights of seafarers and fishing workers, and the safety and dignity of persons at sea, including irregular migrants and persons in distress.

The relationship between maritime crime and human insecurity is not merely correlative; it is causal in both directions. Maritime crime, including piracy, trafficking, and IUU fishing, generates human insecurity for the populations directly affected and undermines the governance frameworks through which development and environmental sustainability are pursued. But human insecurity, including poverty, ecological degradation, and political marginalisation, generates the conditions in which maritime crime is likely to flourish. A maritime security strategy that focuses exclusively on enforcement without addressing the underlying conditions of human insecurity will suppress the symptoms of maritime crime without eliminating its causes, and is therefore likely to achieve only temporary and partial success.

Bangladesh has a distinctive perspective to contribute to the development of this broader understanding of maritime security. As a country that has achieved remarkable development gains over the past three decades while facing severe governance challenges, as a country profoundly vulnerable to climate change while bearing minimal historical responsibility for it, and as a country that has successfully pursued the peaceful resolution of maritime disputes through international legal mechanisms, Bangladesh has both the credibility and the strategic interest to advocate for a maritime security framework that takes human security seriously alongside enforcement security.

13.2 The Customary Law Formation Potential of Bangladesh's Maritime Security Practice

Beyond its immediate domestic significance, Bangladesh's development of a comprehensive and principled maritime security legal framework could contribute to the formation of customary

international maritime law in ways that serve the interests of developing coastal states more broadly. Customary international law is formed through the combination of state practice and opinio juris, the sense of legal obligation, and the consistent practice of states in addressing maritime security challenges, expressed in legislation, judicial decisions, treaties, and the statements of government officials, contributes to the evolution of customary norms.

Bangladesh's successful resolution of its maritime boundary disputes through international legal mechanisms, and its active engagement in the development of the BBNJ Agreement, the ITLOS Advisory Opinion process, and the BIMSTEC maritime cooperation framework, have already established Bangladesh as a constructive and principled participant in the international maritime legal community. The development of a comprehensive domestic maritime security legal framework, grounded in the principles of UNCLOS and the international maritime security conventions and extending those principles to new challenges including autonomous vessels, cybersecurity, and climate-driven maritime insecurity, would further enhance Bangladesh's contribution to the progressive development of international maritime law.

The potential for Bangladesh to exercise intellectual leadership in the development of maritime security law for developing coastal states is significant. The legal scholars, practitioners, and institutions of Bangladesh, including the Bangladesh Centre for Ocean Law and Policy and the Bangladesh Maritime Law Society, have demonstrated growing capacity for sophisticated legal analysis and advocacy in the maritime domain. The textbook of which this Part forms a component is itself a contribution to this intellectual project. The engagement of Bangladesh's maritime legal community with the international scholarly and professional community, through publications, conferences, and participation in international legal processes, is an important element of Bangladesh's broader maritime diplomacy.

13.3 The Role of Law in Creating a Just Maritime Order

This commentary concludes with a reflection on the role of law in creating a just maritime order, drawing on the philosophical and jurisprudential traditions that have been invoked throughout this Part. The law of maritime security is not merely a set of technical rules for policing the sea; it is an expression of a particular vision of how the maritime commons should be governed, who bears the costs and benefits of maritime order, and what values are served by the rules that states agree to follow.

A just maritime order, in the Rawlsian sense, would be one that rational persons behind a veil of ignorance would choose, not knowing whether they would be a coastal state dependent on maritime resources, a landlocked state dependent on maritime trade, a flag state responsible for vessels operating worldwide, a seafarer working in potentially dangerous conditions, an irregular migrant seeking safety at sea, or a coastal community whose livelihood and survival depend on the health of the marine ecosystem. Such an order would balance the legitimate security interests of states with the fundamental rights of individuals, distribute the costs and benefits of maritime governance equitably, and create the conditions for the sustainable use of marine resources across generations.

Bangladesh's geographic position, its developmental history, its experience of the promises and the perils of the sea, and its active engagement with the international maritime legal community all equip it to contribute to the creation of such an order, both through the reform of its own domestic maritime security framework and through its advocacy in international legal and political fora. The commentary in this Part has attempted to chart the legal path toward that contribution, identifying the specific reforms required in Bangladesh's domestic law, the international instruments that must be ratified and implemented, the institutional architecture that must be built, and the philosophical framework within which these practical reforms should be understood.

The sea remains, as it has always been, a space of both extraordinary promise and extraordinary danger. The promise of a blue economy, of sustainable marine resources, of maritime connectivity, and of ocean-based livelihoods is real and within Bangladesh's reach. So too are the dangers of maritime crime, ecological collapse, climate-driven displacement, and the exploitation of vulnerable persons at sea. The law of maritime security, developed with wisdom, grounded in principle, and implemented with determination and adequate resources, is Bangladesh's most powerful instrument for realizing the promise while managing the danger. The reform agenda proposed in this Part is ambitious, but it is commensurate with the scale of both the challenge and the opportunity that Bangladesh's maritime future presents.

BIBLIOGRAPHY AND BIBLIOGRAPHIC NOTES TO PART EIGHT

The analysis in this Part draws on a wide range of primary and secondary sources in international law, maritime law, political theory, and the specialized literature on maritime security governance. The following notes are not exhaustive but indicate the principal sources and further reading for the major themes of the Part.

On the historical development of maritime security law, the essential works are Philip Gosse's The History of Piracy (1932); Marcus Rediker's Between the Devil and the Deep Blue Sea (1987), which provides a social history of pirates and merchant sailors in the early modern period; and David Cordingly's Under the Black Flag (1995). The legal history of piracy is addressed in Alfred Rubin's The Law of Piracy (1988), which remains the most comprehensive legal history of the subject, and in Douglas Guilfoyle's Shipping Interdiction and the Law of the Sea (2009), which provides a comprehensive analysis of the law applicable to the interdiction of vessels on the high seas.

On the UNCLOS framework for maritime security, the essential commentaries are James Crawford's and Simon Olleson's chapter on the law of the sea in Evans (ed.) International Law (5th ed. 2018); Yoshifumi Tanaka's The International Law of the Sea (3rd ed. 2019); and Robin Churchill and Alan Lowe's The Law of the Sea (3rd ed. 1999). The specific provisions on piracy and other maritime crimes are analysed in depth in Guilfoyle's Shipping Interdiction and in Natalie Klein's Maritime Security and the Law of the Sea (2011).

On maritime terrorism and the SUA Convention, the most comprehensive analysis is in Gal Luft and Anne Korin (eds) Terrorism and the Seas (2009) and in Michael Bahar's Attaining Optimal Deterrence at Sea: A Legal and Strategic Theory for Naval Anti-Piracy Operations (2007). The 2005 SUA Protocol is analysed in Rosalyn Higgins et al, Oppenheim's International Law: United Nations (2017).

On the Bangladesh maritime security context specifically, the most recent and directly relevant works include the 2024 Springer article on International Legal Arrangements for IUU Fishing and Bangladesh by the Marine Development journal; the 2025 publication from the Indian Journal of Law and Legal Research on Maritime Piracy in the Bay of Bengal and Bangladesh's UNCLOS Obligations; and the regular publications of the Bangladesh Centre for Ocean Law and Policy and the Bangladesh Maritime Law Society.

On the philosophy of maritime security and the broader questions of order, justice, and the commons at sea, the essential readings include Philip Allott's Eunomia (1990); James Kraska's Maritime Power and the Law of the Sea (2011); and Tony Anghie's Imperialism, Sovereignty and the Making of International Law (2005), which provides a critical perspective on the development of international maritime law from a postcolonial standpoint.

The 2024 ITLOS Advisory Opinion on Climate Change Obligations, analysed extensively in Part Seven of this commentary, is directly relevant to the climate-security nexus dimension of this Part. The 2025 ICJ Advisory Opinion on Climate Change Obligations and its implications for maritime security are addressed in the scholarship of Joanna Mossop, Natalie Klein, and others published in the LOSC Review and similar international law journals in 2025 and early 2026.

On the institutional dimensions of maritime security governance, including port state control, flag state responsibility, and the organisation of coast guards, the most useful sources include the IMO's comprehensive publications on port state control and flag state implementation; the work of the International Law Commission on the responsibility of states for internationally wrongful acts; and the comparative analysis of coast guard legal frameworks in Natalie Klein (ed.) Maritime Security: International Law and Policy Perspectives (2010).

END OF PART EIGHT

PART NINE

THE GOVERNANCE OF MARINE FISHERIES: INTERNATIONAL LAW, DOMESTIC INADEQUACY, AND THE REFORM IMPERATIVE FOR BANGLADESH

A COMMENTARY ON FISHERIES JURISPRUDENCE, OCEAN GOVERNANCE THEORY, RIGHTS OF COASTAL COMMUNITIES, AND THE LEGISLATIVE CRISIS AT THE HEART OF BANGLADESH'S BLUE ECONOMY

PREFACE TO PART NINE

Of all the dimensions of the law of the sea that affect the daily lives of Bangladeshis, none is more immediately consequential, more historically resonant, or more urgently in need of legislative reform than the governance of marine fisheries. The sea does not give up its fish without a framework. It does not yield its abundance to any society that lacks the institutional architecture to manage that abundance with wisdom, fairness, and foresight. Yet Bangladesh, a nation that derives from the Bay of Bengal not only protein for hundreds of millions of people but the livelihoods of somewhere between five and seventeen million citizens depending on how one draws the boundaries of the fisheries-dependent population, governs its marine fisheries through an ordinance that was drafted in 1983, before the full ratification of UNCLOS, before the emergence of ecosystem-based fisheries management as a scientific paradigm, before the globalisation of the seafood trade, before the mass adoption of global positioning technology on fishing vessels, before the climate science of marine ecosystem disruption was anything like what it is today, and before any of the regional or global instruments that now constitute the backbone of responsible international fisheries governance had been negotiated and brought into force.

This is not a minor legislative gap. It is a systemic failure that threatens the ecological sustainability of the Bay of Bengal, the food security of the Bangladeshi nation, the livelihoods of millions of coastal poor, and Bangladesh's international legal reputation as a responsible steward of one of the world's most biologically significant and ecologically vulnerable marine environments.

Part Nine undertakes a comprehensive legal commentary on the governance of marine fisheries in Bangladesh, grounded in the deepest traditions of jurisprudence and legal philosophy, informed by the most recent developments in international law and fisheries science, and directed toward the articulation of a specific, principled, and practically achievable programme of legislative and institutional reform. The commentary proceeds through thirteen chapters that together constitute the most thorough analysis of Bangladeshi fisheries law yet attempted in the scholarly literature. It begins with the philosophical and jurisprudential foundations of the legal relationship between humanity and the fish of the sea, traces the development of international fisheries law from its earliest customary origins to the cutting edge of the Port State Measures Agreement and the Agreement on BBNJ, examines the domestic legal framework in detail and with candor about its deficiencies, explores the rights of small-scale fishers as a matter of social justice and constitutional obligation, engages with the fisheries-climate change nexus illuminated by the 2024 ITLOS Advisory Opinion, and concludes with a comprehensive reform agenda that is simultaneously legally rigorous and politically realistic.

The fish of the Bay of Bengal do not belong to any government. They belong, in the deepest sense, to the people who depend on them for their sustenance and their dignity, and to the ecosystem that sustains them. The law's task is to manage the relationship between human need and ecological reality in a manner that is fair, sustainable, and worthy of a civilisation that claims to govern itself by principles of justice. Bangladesh has not yet succeeded in this task. The commentary in these chapters is an attempt to show how it might.

CHAPTER 1: THE PHILOSOPHICAL AND JURISPRUDENTIAL FOUNDATIONS OF FISHERIES LAW

1.1 Fish as Property, Commons, and Trust: The Fundamental Question

The governance of marine fisheries begins with a question that is simultaneously philosophical, jurisprudential, and political: who owns the fish in the sea? The answer that the law of any given society gives to this question reflects deep assumptions about the nature of property, the relationship between the individual and the community, the obligations of the present to the future, and the appropriate role of the state in managing natural resources.

In the Roman jurisprudential tradition, which shaped the conceptual architecture of Western maritime law more profoundly than any other legal heritage, fish in the sea were res nullius, things belonging to no one, or res communes, things common to all, depending on the specific context and the precise authority invoked. The Institutes of Justinian provided that wild animals, fish, and birds were by natural law common to all, meaning that they could not be the subject of private property until they were reduced to possession by capture. This first possession rule, under which the fish caught by a fisherman become his property at the moment of capture, is elegant in its simplicity and has been enormously influential in the development of fishing law across many legal systems. It is reflected in the domestic fisheries law of many states to this day, including, implicitly, Bangladesh's Marine Fisheries Ordinance of 1983.

But the Roman first possession rule was developed at a time when the sea and its fish were, in practical terms, inexhaustible relative to human capacity to exploit them. The rule made reasonable sense when the primary constraint on fish extraction was the physical capacity of fishing vessels and gear, not the biological capacity of fish populations to reproduce and maintain themselves. When the technology of fishing advanced to the point where human extraction capacity could, and regularly did, exceed the biological capacity of fish stocks to replace themselves, the first possession rule ceased to be adequate as the foundational principle of fisheries law. A rule that allocates a natural resource to the first person to capture it provides no incentive for any individual fisher to restrain exploitation in the interests of sustainability, because any fish that this individual refrains from catching will simply be caught by another. This is the classic dynamic of the commons tragedy, identified by H. Scott Gordon in his landmark 1954 paper in the Journal of Political Economy and popularised by Garrett Hardin in his 1968 essay in Science, and it lies at the heart of the crisis of overfishing that is the central challenge of contemporary fisheries governance.

The tragedy of the commons analysis, which has become enormously influential in environmental law and economics, holds that resources held in common, to which all users have free access, will inevitably be overexploited and depleted, because each individual user captures all the benefits of exploitation while bearing only a fraction of the costs, which are distributed among all users. The overfishing of marine fisheries is the archetype of the commons problem, and the institutional response to this problem has taken three principal forms in the theory and practice of fisheries governance: privatisation, through the creation of property rights in fish

stocks that create incentives for individual right holders to manage resources sustainably; state regulation, through the imposition of catch limits, gear restrictions, and other regulatory measures by public authorities; and community governance, through the establishment of local institutions among fishing communities that develop and enforce norms of sustainable use.

Elinor Ostrom, who received the Nobel Memorial Prize in Economic Sciences in 2009 for her analysis of commons governance, challenged the binary between privatisation and state regulation by demonstrating, through empirical research across many different types of common pool resources, that communities can and do develop effective institutions for the sustainable management of shared resources, without either privatisation or state regulation, when certain conditions are met. These conditions include clearly defined boundaries of the resource and the community of users, rules adapted to local conditions, collective choice arrangements allowing users to participate in rule modification, effective monitoring of both the resource and user behaviour, graduated sanctions for rule violations, conflict resolution mechanisms, and recognition of the right to organise by external governmental authorities. Ostrom's polycentric governance framework has been enormously influential in the development of community-based fisheries management approaches, and it is directly relevant to the design of the reformed fisheries governance framework for Bangladesh proposed in this Part.

The property rights approach to fisheries management, which has been influential in economics and in the fisheries policy of some states, particularly New Zealand and Iceland, proceeds from the argument that overfishing is fundamentally a property rights problem: it occurs because no one owns the fish in the sea, and therefore no one has an incentive to conserve them. The solution, on this approach, is to create property rights in fish stocks through instruments like Individual Transferable Quotas, which allocate to individual fishers or fishing companies a property right in a specified share of the total allowable catch, which they may fish themselves or sell to others. The property rights approach has produced significant conservation benefits in some contexts, by creating incentives for quota holders to support sustainable total allowable catch limits and to invest in improved gear technology. But it has also been severely criticised for its distributional consequences, which have in many cases resulted in the concentration of fishing rights in the hands of large commercial operators at the expense of small-scale fishers and coastal fishing communities.

For Bangladesh, where small-scale artisanal fishing is the dominant mode of marine fisheries production and where millions of coastal poor depend on access to fisheries resources for their survival, the distributional implications of any system of property rights in fish must be taken with the utmost seriousness. A fisheries governance system that is ecologically sustainable but socially unjust, that creates property rights that are then captured by commercial interests and used to exclude the poor from their traditional livelihoods, would be a reform that makes the legal situation formally better while making the human situation practically worse. The jurisprudential framework for fisheries reform in Bangladesh must therefore incorporate social justice as a foundational principle alongside ecological sustainability.

1.2 The Trust Doctrine and Intergenerational Justice in Fisheries Law

The public trust doctrine, which has been developed most extensively in the jurisprudence of the United States but which has parallels and analogues in legal systems across the world, provides an alternative jurisprudential framework for understanding the legal character of fisheries resources and the obligations of the state in their management. The doctrine holds that certain natural resources, including navigable waters and the fish that inhabit them, are held by the state in trust for the public, meaning that the state has a fiduciary obligation to manage these resources for the benefit of all citizens, present and future, and may not alienate or impair them in ways that would prejudice the public interest.

The origins of the public trust doctrine in the common law tradition are traceable to the ancient Roman principle of res publicae and to the English common law concept of the Crown's rights in the foreshore, tidal waters, and the fish therein. In the United States, the doctrine was given its most influential formulation by the Supreme Court in Illinois Central Railroad v. Illinois of 1892, which held that the state of Illinois could not grant the entire waterfront of Chicago to a railroad corporation because such a grant would be inconsistent with the state's obligation to hold the navigable waters in trust for the public. The doctrine has since been applied in numerous contexts, including challenges to decisions that would impair public access to fisheries, and it has been proposed as a legal basis for climate litigation in which states are challenged for failing to protect natural resources from the impacts of climate change.

In the international law context, the common heritage of mankind principle, discussed in earlier parts of this commentary, can be understood as an international analogue of the public trust doctrine: both hold that certain resources belong not to any individual or corporation but to the community as a whole, and that the managers of those resources have a fiduciary obligation to manage them in the public interest. The extension of the public trust concept to marine fisheries, as part of a reformed domestic legal framework, would provide a philosophical foundation for the obligations of the Bangladesh government toward the fish of the Bay of Bengal that goes beyond the positivist framework of regulatory compliance and connects with deep traditions of moral and legal philosophy.

The dimension of intergenerational justice is equally important. The fish stocks of the Bay of Bengal do not belong only to the present generation of Bangladeshis; they are a natural heritage that the current generation holds in trust for future generations. The obligation of sustainable management is therefore not merely a matter of prudent resource economics; it is a moral obligation of fairness to those who have not yet been born but whose wellbeing depends on the maintenance of ecological systems that are currently being degraded. This intergenerational justice framework, developed in the international law context by Edith Brown Weiss in her seminal work In Fairness to Future Generations published in 1989, has become an increasingly important element of international environmental law and is specifically reflected in the definition of sustainable development articulated in the Brundtland Report of 1987 as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The practical application of intergenerational justice to Bangladesh's fisheries governance requires that decisions about total allowable catches, gear restrictions, marine protected areas, and the allocation of fishing rights be made not only on the basis of present economic interests

but on the basis of precautionary analysis that takes seriously the long-term consequences of present exploitation patterns for future fish stocks and future generations of fishers. Bangladesh's current Marine Fisheries Ordinance contains no explicit provision reflecting this intergenerational obligation, and the development of a reformed fisheries law framework must incorporate it explicitly.

1.3 Hugo Grotius and the Freedom to Fish: The Historical Construction of Open Access

The Grotian tradition of the freedom of the seas, discussed in Part One of this commentary, has a fisheries dimension that is essential to understanding the historical development of fisheries law and that remains legally and philosophically significant today. In Mare Liberum, Grotius argued not only that the sea could not be the subject of territorial sovereignty but specifically that the freedom of fishing was a natural right that no state could abridge. His argument against the Portuguese claim to a monopoly over the Indian Ocean fisheries and the Dutch claim to priority in the North Sea herring fisheries was that the fish of the sea, unlike the fish in a lake or a pond, were inexhaustible, and therefore their exploitation by one person or nation did not diminish the supply available to others. The freedom to fish, on this view, was not merely a political or economic interest but a natural right grounded in the common humanity of all people and their shared dependence on the sea's bounty.

The Grotian argument for the freedom to fish was compelling in the context of seventeenth-century Europe, where the primary constraint on fisheries exploitation was human capacity rather than fish stock abundance. But the argument's empirical premise, the inexhaustibility of marine fish stocks, has been definitively refuted by the experience of the twentieth century. The collapse of the North Atlantic cod fishery, one of the most dramatic ecological disasters in the history of marine resource management, demonstrated beyond any reasonable doubt that human extraction capacity can exceed the biological capacity of fish stocks to sustain themselves, and that the freedom to fish without regulation is a path to the destruction of the very resource that freedom is supposed to protect.

The legal implications of this empirical refutation are profound. If the freedom to fish was grounded in the inexhaustibility of fish stocks, then the demonstration that fish stocks are not inexhaustible removes the empirical foundation of the Grotian argument and opens the way for a fundamental reconceptualisation of the legal status of fisheries resources. The UNCLOS framework represents this reconceptualisation in international law: instead of an unfettered freedom to fish on the high seas and in adjacent waters, it establishes a system of coastal state sovereign rights over fisheries in the EEZ, combined with obligations of conservation and management, and a residual freedom to fish on the high seas that is subject to international conservation obligations. This framework represents a fundamental departure from the Grotian tradition, grounded in an updated empirical understanding of the ecology of marine fisheries, and it creates a new jurisprudential foundation for the obligations of states in fisheries management that is simultaneously ecologically grounded and philosophically sophisticated.

1.4 The Tragedy of the Commons Revisited: Critiques, Complications, and the Bangladeshi Context

The tragedy of the commons framework, while enormously influential in fisheries policy, has been subjected to significant critical scrutiny that is important to engage with before applying it to the Bangladeshi context. Three categories of critique deserve particular attention.

First, Ostrom and other scholars in the tradition of political economy have challenged the claim that commons are inevitably over-exploited, demonstrating that many fishing communities around the world have developed and maintained effective customary management systems that prevent overexploitation without either privatisation or state regulation. The Bangladesh marine fisheries context contains elements of this community governance tradition: customary norms about fishing grounds, gear types, and seasonal practices have been maintained in many coastal fishing communities, and these traditions have conservation value that should be preserved and strengthened in any reformed governance framework rather than displaced by purely bureaucratic approaches.

Second, the tragedy of the commons framework has been criticised for its ideological implications, specifically for the way in which it has been used to justify the dispossession of common property communities through privatisation in the name of sustainability. In Bangladesh as in many developing countries, the rhetoric of the commons tragedy has sometimes been deployed to support the reallocation of fishing rights from small-scale traditional fishers to large commercial operators, in a process that is justified as improving efficiency and sustainability but that in practice concentrates benefits in the hands of the already privileged while imposing costs on the poor. Critical analysis of the political economy of fisheries governance reform must be attentive to these dynamics.

Third, and most profoundly for Bangladesh, the tragedy of the commons framework tends to treat the over-exploitation of fisheries resources as a problem internal to the fishing community, when in reality many of the most significant causes of fisheries degradation are external to that community. Pollution from land-based sources, including industrial effluent and agricultural runoff that degrades coastal habitats and reduces the productivity of coastal fisheries; the physical destruction of mangrove forests for shrimp aquaculture and coastal development; the disruption of fish migration patterns by coastal infrastructure; and the long-term ecological transformations driven by climate change, including ocean warming, acidification, and the alteration of monsoon patterns that determine the seasonal cycle of the fishery, are all causes of fisheries degradation that cannot be attributed to the behaviour of the fishing community and that require regulatory responses that go far beyond the governance of the fishery itself. A reformed fisheries law framework for Bangladesh must address these external drivers of fisheries degradation as well as the internal dynamics of fishing effort and catch.

1.5 Sovereignty, Stewardship, and the Political Theory of Resource Management

The political theory of resource management provides a fourth philosophical framework that is essential to understanding the legal governance of fisheries. The allocation of sovereign rights over the fisheries of the EEZ to the coastal state, as established in UNCLOS, reflects a political theory of territorial sovereignty that grants to the nation-state the authority to manage the natural resources of its territory for the benefit of its people. This theory of sovereign resource

management is the legal foundation for Bangladesh's fisheries governance authority, and its implications need to be carefully unpacked.

The UNCLOS framework does not grant unlimited discretion to the coastal state in the management of its EEZ fisheries. It imposes specific obligations, articulated in Articles 61 and 62, to ensure that fish stocks are not endangered by overexploitation and to promote the objective of optimum utilisation of living resources. These obligations constrain the sovereign rights of the coastal state and create a form of conditional sovereignty, in which the state's authority over its fisheries is contingent on its exercise of that authority in a manner consistent with scientific principles of fisheries management and with the broader obligations of marine environmental protection under Part XII of UNCLOS.

The philosophical tension between sovereign authority and environmental obligation is one of the central themes of contemporary international environmental law. The principle of permanent sovereignty over natural resources, affirmed in numerous UN General Assembly resolutions from the 1960s onward, asserts the absolute right of states to dispose of their natural resources as they see fit. But this assertion of sovereign authority has been progressively qualified by the development of international environmental law, which imposes obligations of due care, precaution, and intergenerational equity in the management of natural resources. The 2024 ITLOS Advisory Opinion, by confirming that the due diligence obligations of UNCLOS Part XII apply to greenhouse gas emissions that affect the marine environment, represents the most recent and most authoritative statement of the principle that sovereign rights over natural resources are not unconditional but are subject to international legal obligations of responsible stewardship.

For Bangladesh, this tension between sovereign rights and environmental obligation is not merely a theoretical question. It is an immediately practical question about the scope of Bangladesh's authority to grant fishing licenses, to set total allowable catches, to designate marine protected areas, and to regulate the activities of both domestic and foreign fishing fleets in its EEZ. The resolution of this tension in Bangladesh's domestic legal framework requires a constitutional and legislative commitment to the principle of sustainable fisheries management that is as fundamental and as enforceable as the assertion of sovereign rights over fisheries resources.

CHAPTER 2: THE INTERNATIONAL LEGAL FRAMEWORK FOR FISHERIES GOVERNANCE

2.1 UNCLOS Articles 61 to 67: The Core Obligations of the Coastal State

The foundational provisions of international fisheries law for the EEZ are Articles 61 to 67 of UNCLOS. These provisions establish the basic obligations of coastal states in the management of living resources in the EEZ, and they create a normative framework that is both comprehensive in its coverage and demanding in its requirements. Any critical commentary on Bangladesh's domestic fisheries law must begin with a thorough understanding of these

provisions, because it is against their standards that the adequacy or inadequacy of domestic legislation must ultimately be judged.

Article 61 of UNCLOS, titled Conservation of the Living Resources, establishes the core conservation obligations of the coastal state. It requires the coastal state to determine the allowable catch of living resources in its EEZ, taking into account the best scientific evidence available to it. It imposes an obligation on the coastal state to ensure, through proper conservation and management measures, that the maintenance of living resources in the EEZ is not endangered by overexploitation. It introduces the concept of the maximum sustainable yield, defined as the condition of the population of each exploited species that would produce the maximum sustainable yield as qualified by relevant environmental and economic factors, as the standard for conservation measures. It also requires the coastal state to take into account effects on species associated with or dependent on harvested species, in what can be read as a proto-ecosystem-based management provision. And it imposes a specific obligation of information exchange and scientific cooperation with the FAO and other international organizations.

Article 62 establishes the objective of optimum utilisation of living resources. It requires the coastal state, which has the sovereign right to determine the allowable catch, to promote the objective of optimum utilisation, which in practice means that if the coastal state lacks the capacity to harvest the entire allowable catch, it should give other states access to the surplus through license agreements. This obligation has been controversial in the Bay of Bengal context, as Bangladesh has not always been able to effectively harvest the full allowable catch of all species in its EEZ, which potentially creates an obligation to allow access to foreign fishing fleets, with all the regulatory and enforcement challenges that implies.

Article 63 addresses stocks that occur within the EEZs of two or more coastal states, specifically the obligation to agree upon measures necessary to coordinate and ensure the conservation and development of such stocks. This provision is directly relevant to Bangladesh's management of shared stocks with India and Myanmar, including the important hilsa shad fishery, which migrates across the maritime boundaries of both countries and whose sustainable management requires regional cooperation that current domestic legal frameworks do not adequately facilitate.

Article 64 addresses highly migratory species, specifically tuna and other species listed in Annex I of UNCLOS, requiring the coastal state and other states in the region whose nationals fish these species to cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilisation of such species throughout the region. The Bay of Bengal Tuna Management Programme, which has been developed under the auspices of the Indian Ocean Tuna Commission, is the primary vehicle for the implementation of this obligation in the Bay of Bengal context, and Bangladesh's engagement in this programme is an important dimension of its international fisheries governance obligations.

Article 65 specifically addresses marine mammals, requiring states to cooperate with a view to the conservation of marine mammals and, in the case of cetaceans in particular, to work through the appropriate international organizations for their conservation, management, and study. The Bay of Bengal supports significant populations of marine mammals, including dolphins,

porpoises, and the critically endangered Ganges river dolphin in the estuarine and riverine areas of Bangladesh's coastal zone, and these populations face severe threats from by-catch in fishing operations, habitat degradation, and chemical pollution. Bangladesh's domestic fisheries law does not contain specific provisions for the protection of marine mammals, which is a significant gap relative to both UNCLOS obligations and international conservation standards.

Article 66 addresses anadromous stocks, specifically the obligations of the state of origin of salmon and other anadromous species, which are not directly relevant to Bangladesh's EEZ. Article 67 addresses catadromous species, specifically eel, which are not commercially significant in Bangladesh's EEZ. But Articles 65 and 66 collectively illustrate the point that UNCLOS fisheries provisions are not limited to commercially exploited fish stocks; they extend to all living resources of the EEZ, including ecologically significant species that may have no commercial value but whose conservation is essential for the maintenance of the marine ecosystem.

2.2 The FAO Code of Conduct for Responsible Fisheries

The Food and Agriculture Organization Code of Conduct for Responsible Fisheries, adopted in 1995, is the most comprehensive international instrument on fisheries management and provides a detailed elaboration of the obligations of UNCLOS Articles 61 to 67 in the specific context of fisheries governance. The Code is not legally binding in the same way as a treaty, but it has been universally endorsed by FAO member states, including Bangladesh, and it reflects international consensus on the standards of fisheries management that responsible states are expected to meet. Its provisions have been progressively incorporated into domestic fisheries legislation across the world, and they have been cited by international courts and tribunals as evidence of internationally accepted fisheries management standards.

The Code covers a wide range of fisheries governance topics, including fisheries management, fishing operations, aquaculture development, integration of fisheries into coastal area management, post-harvest practices, fish trade, and fisheries research. Its core principles include the obligation to apply the precautionary approach to conservation, management, and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment; the obligation to prevent overfishing and excess fishing capacity; the obligation to protect the rights of fishers and fish workers, especially artisanal and subsistence fishers; the obligation to consider the interests of fishers and fish workers in conservation and management decisions; and the obligation to minimise waste, discards, catch of non-target species, and impacts on associated or dependent species.

Bangladesh adopted the Code of Conduct for Responsible Fisheries in its national fisheries policy of 1998, which represents a formal commitment to its principles. However, the implementation of the Code's provisions in domestic law has been incomplete. The Marine Fisheries Ordinance of 1983 predates the Code and does not reflect its principles; while the 1998 policy provides general guidance, it does not create specific legal obligations; and the institutional capacity for the implementation of the Code's detailed requirements, including stock assessment, monitoring of fishing operations, observer programmes, and the management of fishing capacity, remains limited.

The FAO's Technical Guidelines for Responsible Fisheries, which provide detailed guidance on the implementation of specific provisions of the Code, are particularly relevant to Bangladesh. The guidelines on the precautionary approach to fisheries management, first published in 1996 and updated in subsequent editions, provide a detailed framework for the application of precautionary principles in the determination of total allowable catches, the establishment of reference points, and the response to stock depletion. The guidelines on ecosystem approaches to fisheries, published in 2003 and updated to incorporate developments in ecosystem science, provide a framework for the integration of ecological considerations into fisheries management decisions. These guidelines should be incorporated by reference into Bangladesh's reformed fisheries legislation, providing a framework for the development of detailed management regulations that keeps pace with the evolving standards of international fisheries science.

2.3 The Agreement on Port State Measures: Bangladesh's Obligations to Combat IUU Fishing

The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, known as the PSMA, adopted by the FAO in 2009 and entering into force in 2016, is the most significant international fisheries instrument to be adopted since the FAO Code of Conduct. It is the first binding international agreement specifically targeting illegal, unreported and unregulated fishing, and it does so by requiring states parties to deny port access to vessels engaged in IUU fishing, to conduct inspections of foreign fishing vessels in their ports, to share information about suspected IUU fishing with flag states and other port states, and to refuse to allow fish caught through IUU fishing to be landed or transhipped in their ports.

Bangladesh acceded to the PSMA in January 2016, making it one of the early acceding states from South Asia. This accession creates binding obligations for Bangladesh to implement the Agreement's provisions in its domestic law and in its port operations. Specifically, Bangladesh is required to designate specific ports for foreign fishing vessels, to require advance notice of entry, to refuse port entry to vessels on IUU vessel lists, to conduct minimum standards inspections of foreign fishing vessels, to maintain records of inspections and to share information through the FAO's Global Record of Fishing Vessels, and to train port inspection officers in the identification of IUU fishing activities.

The implementation of these obligations in Bangladesh's domestic legal framework is incomplete. The Chittagong and Mongla ports have not been formally designated as ports for foreign fishing vessel access under the PSMA framework, and the inspection regime for foreign fishing vessels does not meet PSMA minimum standards. The information sharing obligations have not been fully operationalised, partly because Bangladesh's port management information systems are not integrated with the FAO's global databases. And the training of port inspection officers, while underway with FAO technical assistance, has not yet produced a sufficient cadre of trained inspectors to implement the Agreement's requirements comprehensively.

The significance of IUU fishing in Bangladesh's maritime zones cannot be overstated. It is estimated, though the data are uncertain, that substantial quantities of fish are caught illegally in Bangladesh's EEZ each year by both domestic and foreign fishing vessels. Domestic IUU fishing includes fishing in prohibited areas, fishing during closed seasons, use of banned gear including

fine-meshed nets that catch juvenile fish, and underreporting of catches. Foreign IUU fishing in Bangladesh's EEZ by vessels from India, Myanmar, Thailand, and other Asian nations is a significant problem that Bangladesh's maritime enforcement agencies lack the capacity to fully address. The economic value of fish taken through IUU fishing in Bangladesh's EEZ is difficult to quantify but is certainly in the hundreds of millions of US dollars annually, representing a substantial loss of national resources that a reformed legal and institutional framework could prevent.

2.4 The Agreement on Fisheries Subsidies: A New Dimension of International Fisheries Law

In June 2022, after more than two decades of negotiation, the World Trade Organization adopted the Agreement on Fisheries Subsidies, which entered into force in June 2025 and which represents the most significant new multilateral fisheries instrument to be negotiated in the post-UNCLOS era. The Agreement prohibits certain fisheries subsidies that contribute to IUU fishing, overcapacity, and the overexploitation of fisheries, and it requires WTO members to notify their fisheries subsidy programmes and to phase out prohibited subsidies.

Bangladesh is a member of the WTO and is therefore a party to the Agreement on Fisheries Subsidies, which creates binding obligations to review and potentially reform its domestic fisheries subsidy regime. Bangladesh provides various forms of support to its fisheries sector, including fuel subsidies for fishing vessels, investment subsidies for gear and vessel acquisition, and price support mechanisms for domestically produced fish. Under the Agreement, subsidies that contribute to fishing of overexploited stocks or to IUU fishing are prohibited, while subsidies to small-scale, artisanal, and subsistence fishers in developing and least developed countries are subject to special and differential treatment provisions that provide significant flexibility.

The implementation of the Fisheries Subsidies Agreement in Bangladesh's domestic framework requires a comprehensive review of all fisheries-related subsidy programmes to identify those that fall within the categories of prohibited subsidies and to ensure that the documentation and notification requirements are met. This review should be conducted by a cross-ministerial working group encompassing the Ministry of Fisheries and Livestock, the Ministry of Finance, and the Ministry of Commerce, working with the support of FAO and WTO technical assistance programmes. The reformed fisheries law framework should contain provisions for the review and notification of fisheries subsidy programmes as a routine element of fisheries management practice.

2.5 The BBNJ Agreement and High Seas Fisheries: Implications for Bangladesh

The Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, adopted in 2023 and in the process of gathering the ratifications required for entry into force, extends the framework of fisheries and biodiversity governance to the high seas beyond the limits of national jurisdiction. While Bangladesh's primary fisheries interests are in its EEZ rather than on the high seas, the BBNJ Agreement has several dimensions of direct relevance.

First, the BBNJ Agreement's provisions on environmental impact assessment apply to activities in areas beyond national jurisdiction that may have impacts on the marine environment of those areas, including fishing activities on the high seas. Bangladesh's distant water fishing fleet, which is small but growing, may be subject to the environmental impact assessment requirements of the Agreement when its activities are conducted in high seas areas. A reformed domestic fisheries law should include provisions for the conduct of environmental impact assessments for high seas fishing activities consistent with the BBNJ Agreement standards.

Second, the BBNJ Agreement's provisions on marine genetic resources and their benefit sharing are relevant to Bangladesh's interests as a developing country with significant marine biodiversity in its EEZ. The Agreement establishes a regime for the sharing of benefits from the utilisation of marine genetic resources of areas beyond national jurisdiction, including a monetary benefit sharing mechanism that will direct funds to developing countries with limited capacity for marine scientific research. Bangladesh should ensure that its ratification and implementation of the BBNJ Agreement is integrated with its broader marine scientific research and blue economy development strategies.

Third, the BBNJ Agreement's provisions on area-based management tools and marine protected areas on the high seas are relevant to Bangladesh's interests in the conservation of migratory species and shared stocks. The management of highly migratory tuna and other species that move between Bangladesh's EEZ and the high seas requires governance frameworks that extend beyond national jurisdiction, and the BBNJ Agreement provides a legal basis for the establishment of high seas protected areas that could complement Bangladesh's national conservation measures.

2.6 The Indian Ocean Tuna Commission and Regional Fisheries Management

The Indian Ocean Tuna Commission, established in 1993 with its headquarters in Victoria, Seychelles, is the regional fisheries management organisation responsible for the conservation and management of tuna and tuna-like species in the Indian Ocean, including the Bay of Bengal. Bangladesh has been a member of the IOTC since 2001, and its participation in the Commission's work creates important obligations and opportunities in relation to the management of highly migratory species in its EEZ.

The IOTC is authorised under its constitutive instrument to adopt binding conservation measures for tuna and tuna-like species throughout the Indian Ocean, including in national EEZs. Bangladesh is required to implement these measures in its domestic fisheries management and to report its catches of tuna and related species to the Commission. The IOTC's catch documentation schemes, which track the movement of tuna through the supply chain from vessel to consumer market, create traceability requirements that apply to Bangladesh-flagged vessels and to fish landed at Bangladesh's ports.

Bangladesh's compliance with IOTC obligations has been incomplete. Catch reporting by Bangladesh's fishing vessels is not systematic, and the capacity of Bangladesh's fisheries administration to collect, validate, and report IOTC-required data is limited. The failure to report accurately to the IOTC not only undermines Bangladesh's credibility in the Commission's

decision-making processes but may also create market access problems, as major tuna importing markets including the European Union and Japan increasingly require documentation of compliance with regional fisheries management organisation requirements as a condition of market access.

The Bay of Bengal Large Marine Ecosystem Programme, a regional collaboration supported by the Global Environment Facility and administered through FAO, provides a vehicle for the development of ecosystem-based management approaches in the Bay of Bengal that go beyond the species-specific focus of the IOTC. The Programme has produced stock assessments, ecosystem models, and governance analyses for the Bay of Bengal that provide a scientific basis for the development of regional fisheries management measures. Bangladesh has been an active participant in the Programme, and the scientific products of the Programme should be incorporated into Bangladesh's domestic fisheries management decisions.

CHAPTER 3: BANGLADESH'S MARINE FISHERIES: ECOLOGY, ECONOMY, AND GOVERNANCE

3.1 The Biology and Ecology of the Bay of Bengal Fisheries

To understand the law governing Bangladesh's marine fisheries, one must first understand the biological and ecological systems that the law is meant to govern. The Bay of Bengal is one of the most productive and biodiverse marine environments in the world, supporting an extraordinary wealth of marine life that has sustained human communities across the littoral for millennia. Understanding this ecology is not merely academic background; it is essential for designing legal frameworks that are calibrated to ecological realities rather than to abstract governance principles that may be appropriate in other contexts but fail in the specific conditions of the Bay.

The Bay of Bengal's high productivity is driven by a combination of factors that make it unique among the world's major marine systems. The monsoon system of South Asia drives massive seasonal river discharge into the bay, carrying enormous quantities of nutrients from the agricultural lands of Bangladesh, India, and Myanmar. These nutrients fuel phytoplankton growth, which supports zooplankton, which in turn supports the vast populations of fish, turtles, marine mammals, and seabirds that characterise the Bay of Bengal ecosystem. The seasonal upwelling in the southern Bay, driven by monsoonal winds, further enriches surface waters with deep-water nutrients, creating periods of extraordinary biological productivity that have sustained commercial fisheries for centuries.

The demersal fish community of Bangladesh's EEZ, that is the community of species living on or near the seabed, includes commercially important species such as croakers, perch, pomfrets, snappers, groupers, sea breams, and threadfin breams, many of which support important artisanal fisheries. The pelagic community, living in the mid and surface waters, includes the enormously important hilsa shad, which is culturally as well as economically significant for Bangladeshis, as well as mackerel, sardines, anchovies, and various tuna species. The invertebrate community

includes penaeid shrimps, which are commercially the most valuable of Bangladesh's marine fisheries products, as well as crabs, squid, and cuttlefish.

The hilsa shad, known in Bangladesh as ilish, deserves particular attention in any legal commentary on Bangladesh's fisheries, because it occupies a singular position in Bangladeshi cultural identity as well as in the nation's fisheries economy. The hilsa is an anadromous fish that spends most of its life in the sea but migrates into freshwater rivers to spawn. The principal spawning migrations occur in the Padma, Meghna, and Brahmaputra rivers, making the hilsa a fisheries resource that spans the boundary between marine and freshwater governance regimes and that is shared among Bangladesh, India, and Myanmar as it migrates through the coastal and estuarine areas of all three countries.

The hilsa fishery supports approximately five million people directly in Bangladesh, and the fish is the single most economically important species in Bangladesh's fisheries sector, accounting for a substantial proportion of total marine fish production and a significant share of fisheries export earnings. The cultural significance of hilsa in Bangladeshi society is difficult to overstate: it is the national fish, and its consumption is associated with celebrations, cultural practices, and Bengali identity in ways that make any attempt to restrict its exploitation politically sensitive as well as economically significant.

Yet the hilsa population has experienced severe stress from overfishing, habitat degradation, and climate change. Stock assessments conducted by the Bangladesh Fisheries Research Institute and by international scientific programmes suggest that hilsa populations were significantly below the maximum sustainable yield level for much of the first two decades of the twenty-first century, though the government's conservation measures, particularly the ban on hilsa fishing during the peak spawning period and the Jatka (juvenile hilsa) protection programme, appear to have had some positive effect on stock recovery. The legal framework for hilsa management represents one of the more encouraging aspects of Bangladesh's fisheries governance, though significant challenges remain.

3.2 The Economic Dimensions of Bangladesh's Marine Fisheries

The economic importance of marine fisheries to Bangladesh is multi-dimensional and cannot be captured by any single statistical measure. The most frequently cited figures suggest that the fisheries sector as a whole, including both marine and freshwater fisheries and aquaculture, contributes approximately 3.6 percent of Bangladesh's GDP, accounts for approximately one percent of total export earnings through shrimp and fish exports, and employs (directly and indirectly) between eleven and twelve percent of the total population.

Within the marine fisheries sub-sector specifically, the principal economic activities include artisanal fishing for domestic consumption and local markets, commercial fishing for export of shrimp and high-value fin fish, and industrial-scale pelagic fishing for fishmeal and fish oil. The export sector is dominated by penaeid shrimp, particularly black tiger shrimp (Penaeus monodon) and whiteleg shrimp (Litopenaeus vannamei), which are produced in coastal shrimp farms as well as caught in the wild. Bangladesh was for many years the world's eighth largest shrimp exporter by value, but export volumes and values have been under pressure from

competition from Southeast Asian producers and from food safety and quality concerns that have resulted in export rejections by the European Union and other major markets.

The structure of the marine fisheries economy is highly dualistic. On one side is a large artisanal sector composed of millions of small-scale fishers operating from beaches, estuaries, and coastal waters in small motorised or non-motorised boats, who catch primarily for local consumption and domestic markets. On the other side is a smaller but economically significant commercial sector, composed of industrial trawlers and large fishing vessels capable of operating in the deep waters of the EEZ, whose owners are typically members of the commercial and political elite with access to capital, licenses, and government connections that small-scale fishers lack.

This dualistic structure has profound implications for the design of fisheries governance. A governance framework that responds primarily to the interests and operational characteristics of the industrial sector will systematically disadvantage the artisanal sector, and vice versa. The challenge for fisheries law reform is to design a framework that is capable of governing both sectors effectively, that provides conservation incentives and enforcement mechanisms appropriate to each, and that ensures that the distributional consequences of fisheries management decisions are equitable across the social spectrum of the fishing industry.

3.3 The Institutional Framework for Fisheries Governance

The governance of Bangladesh's marine fisheries is distributed across multiple institutions, creating a complex and sometimes contradictory framework of authority that is itself a significant obstacle to effective management. The principal institutions are the following.

The Department of Fisheries, under the Ministry of Fisheries and Livestock, is the primary regulatory agency for the fisheries sector, responsible for the licensing of fishing vessels, the enforcement of fisheries regulations, the administration of marine protected areas, and the implementation of fisheries development programmes. The Department has district-level offices throughout the coastal zone and operates the system of Fisheries Officers who are the front-line enforcement agents in marine fisheries governance. The Department's capacity is, however, significantly constrained by limited staffing, inadequate funding, and insufficient coordination with other maritime agencies.

The Bangladesh Fisheries Research Institute is the primary scientific body for fisheries research, responsible for stock assessments, research on fishing gear and technology, the development of aquaculture techniques, and the collection of fisheries statistics. The Institute's research capacity has been strengthened in recent years through international collaborations and the acquisition of research vessels, but the translation of its scientific findings into fisheries management decisions remains weak, partly because the regulatory framework does not create a formal mechanism for the incorporation of scientific advice into management decisions.

The Bangladesh Marine Fisheries Association and the Bangladesh Fishing Industry Owners Association are the principal industry associations for the commercial fisheries sector, and they have significant influence over fisheries policy through their engagement with the Ministry of Fisheries and Livestock. The representation of small-scale and artisanal fishers in the governance

process is weaker, though several civil society organisations and NGOs work to represent the interests of coastal fishing communities, including the Bangladesh Fishermen's Forum and the Coastal Livelihood and Environmental Action Network.

The National Fisheries Policy of 1998 and the Marine Fisheries Management Plan of 2015 provide the overarching policy framework for fisheries governance, but these policy documents are not legally binding and their implementation has been incomplete. The relationship between the policy framework and the legislative framework is not always clear, and there are instances where the policy framework commits Bangladesh to management objectives that are not supported by the legislative framework that would be necessary to achieve them.

CHAPTER 4: THE MARINE FISHERIES ORDINANCE 1983: A CRITICAL COMMENTARY

4.1 The Historical Context and Legislative History of the Ordinance

The Marine Fisheries Ordinance of 1983 was promulgated by the government of President Hussain Muhammad Ershad as an ordinance rather than as an act of parliament, reflecting the political realities of Bangladesh in the early 1980s, when parliamentary governance had been suspended and the country was under military rule. The Ordinance was designed to provide the basic framework for the regulation of marine fisheries in Bangladesh's EEZ and adjacent waters, building on the foundation of the 1974 Territorial Waters and Maritime Zones Act and responding to the growing recognition that the unrestricted exploitation of Bangladesh's newly asserted maritime resources would require some regulatory framework.

The 1983 Ordinance was the product of its time, and its limitations must be understood in their historical context. The international law of the sea was in a state of transition in 1983: UNCLOS had been adopted in 1982 but had not yet entered into force and had not been ratified by Bangladesh. The FAO Code of Conduct for Responsible Fisheries had not yet been negotiated. The scientific paradigm of ecosystem-based fisheries management was in its earliest stages of development. The global problem of IUU fishing had not yet been recognised as a major governance challenge. And Bangladesh's marine fisheries management capacity was extremely limited, having been in existence for less than a decade since independence.

In this context, the Ordinance represented a reasonable first step toward the formalisation of marine fisheries governance in Bangladesh. It established the basic framework of licensing, enforcement, and prohibited activities that provided at least a minimal regulatory structure for the fishery. But over the four decades since its enactment, the Ordinance has not kept pace with the development of either international fisheries law or domestic fisheries science, and the gap between the law as written and the law that is needed has become enormous.

The Ordinance has been amended on several occasions, most significantly in 1995, 2002, and 2010, but these amendments have been targeted and incremental rather than comprehensive. They have addressed specific issues, such as the licensing of mechanised fishing vessels and the

creation of specific prohibited activities, without restructuring the underlying framework or bringing it into systematic conformity with international standards. The result is a legislative palimpsest, a text in which traces of different regulatory eras are layered upon one another without coherence, and in which the overall framework remains more appropriate to the governance challenges of 1983 than to those of the mid-2020s.

4.2 The Licensing Regime: Gaps, Ambiguities, and Enforcement Failures

The licensing regime established by the Marine Fisheries Ordinance is the primary instrument for the governance of who may fish in Bangladesh's marine waters, under what conditions, with what gear, and in what areas. An effective licensing regime is the foundation of any credible fisheries management system, because without reliable information about who is fishing, how much they are catching, and where they are operating, it is impossible to assess the state of fish stocks, to set scientifically appropriate catch limits, or to enforce conservation measures.

The Ordinance establishes a system of vessel registration and fishing licenses administered by the Department of Fisheries. In principle, all commercial fishing vessels operating in Bangladesh's marine waters must be registered and licensed, and the license specifies the areas in which the vessel may fish, the gear types that may be used, and any other conditions relevant to the particular class of fishing operation. In practice, the licensing system has significant gaps and enforcement failures that undermine its effectiveness.

First, the registration and licensing system covers only mechanised fishing vessels above a certain size threshold, leaving a vast number of smaller fishing boats, including the artisanal boats that are the most numerous component of Bangladesh's fishing fleet, outside the formal regulatory framework. The exclusion of small-scale artisanal fishers from the licensing system reflects an implicit policy judgment that these fishers pose limited conservation risks because of their individual catch levels, but it creates significant gaps in the data on total fishing effort and catch that are essential for stock assessment and management.

Second, the conditions attached to fishing licenses are not systematically enforced. The requirement to use approved gear types, to fish only in licensed areas, and to comply with closed seasons is frequently violated without consequence, partly because the enforcement capacity of the Department of Fisheries is grossly inadequate relative to the size of the fishing fleet and the area of sea that needs to be monitored, and partly because the penalty structure of the Ordinance is so weak that it fails to provide meaningful deterrence.

Third, the licensing fees do not reflect the economic value of the fishing opportunity being granted, and they do not provide the public revenue that a well-designed system of access fees could generate. In many modern fisheries governance systems, access fees serve both a conservation function, by limiting entry and thereby constraining fishing effort, and a revenue function, by generating public funds that can be reinvested in fisheries management and research. Bangladesh's licensing fees have historically been set at levels far below the economic rent of the fisheries, representing a significant foregone public revenue.

Fourth, the licensing system does not incorporate any mechanism for adjusting the number and size of licenses issued in response to changes in the state of fish stocks. The determination of how many fishing licenses to issue should in principle be driven by the biological capacity of fish stocks to support a given level of fishing effort, as assessed through scientific stock assessment. In practice, the issuance of licenses in Bangladesh has been driven largely by political considerations and demand from the fishing industry, without adequate scientific input. The result has been the persistent over-licensing of fishing capacity relative to what fish stocks can sustainably support, contributing to the overfishing problem that the Ordinance is meant to prevent.

4.3 Conservation Measures: Assessment and Critique

The Marine Fisheries Ordinance establishes several specific conservation measures that represent the primary instruments through which Bangladesh attempts to prevent overfishing. These measures include a prohibition on fishing in the EEZ during a specified closed season, currently 22 days during the peak Jatka (juvenile hilsa) season; a prohibition on certain gear types including specified sizes of mesh net; a ban on fishing within two kilometres of the coastline by mechanised vessels; and a ban on fishing in designated sanctuaries.

The closed season for hilsa fishing during the spawning period, which has been extended several times and now covers 65 days in total including both the Jatka protection period and the main hilsa spawning season, is perhaps the most well-known and widely discussed element of Bangladesh's fisheries conservation measures. The programme has been evaluated by several independent scientific studies, which have generally found positive effects on hilsa population sizes, suggesting that the conservation measure, while imperfect in its implementation, has contributed to stock recovery. The government has supplemented the closed season with a compensation programme for fishers whose livelihoods are disrupted during the closure period, which is an important social measure, though the compensation amounts have not always been sufficient to fully offset the economic loss of fishing during the closure.

The closed season model, while valuable, has significant limitations as a primary conservation tool. First, it addresses only the hilsa fishery and does not cover the many other demersal and pelagic species that are subject to overfishing in Bangladesh's waters. Second, it relies on temporal exclusion rather than on a comprehensive assessment of sustainable harvest levels, meaning that even during the open season, fishing may occur at levels that exceed the maximum sustainable yield for hilsa or other species. Third, the enforcement of the closed season in the vast and poorly monitored area of Bangladesh's EEZ is inherently difficult, and non-compliance is widespread, particularly by fishers operating at greater distances from the coast where monitoring is least effective.

The gear restrictions established by the Ordinance, particularly the prohibition on fine-meshed nets that catch juvenile fish before they reach reproductive maturity, are ecologically sound in principle but poorly enforced in practice. The use of banned gear is widespread, reflecting both the inadequacy of enforcement and the economic pressures faced by fishers who would catch fewer adult fish if they used only approved gear types. The enforcement problem is compounded

by the absence of observer programmes or vessel monitoring systems that could provide independent information about the gear being used by fishing vessels at sea.

The establishment of marine protected areas and fishery sanctuaries is an important component of a modern fisheries conservation framework, and Bangladesh has designated several marine protected areas in its coastal and EEZ waters, including the Swatch of No Ground, a unique deep-sea canyon in the Bay of Bengal that is a critical habitat for sperm whales and other cetaceans. However, the legal framework for the governance of marine protected areas in Bangladesh is fragmented and inadequate. The Ordinance provides the basis for the designation of fishery sanctuaries in the context of fisheries management, but the broader governance of marine protected areas, including the regulation of non-fishing activities that may affect protected habitats, is not comprehensively addressed in any single piece of legislation.

4.4 Enforcement Mechanisms: An Inadequate Framework

The enforcement of the Marine Fisheries Ordinance is the responsibility of the Department of Fisheries, supported by the Bangladesh Navy, the Bangladesh Coast Guard, and the Marine Police. The inter-agency coordination framework for fisheries enforcement is, as noted in Part Eight of this commentary, a persistent challenge that results in gaps in coverage, duplication of effort, and the absence of clear accountability for specific enforcement functions.

The penalties established by the Ordinance for violations of its provisions have not kept pace with the economic value of the fisheries resources that the Ordinance is meant to protect. Maximum fines of a few thousand taka for serious violations, including the use of banned gear, fishing in prohibited areas, and fishing during closed seasons, bear no reasonable relationship to the potential economic gain from the violation and therefore provide insufficient deterrent. The escalation of penalties, including the possibility of confiscation of the vessel and gear as well as criminal sanctions, is available under the Ordinance but is rarely imposed in practice.

The prosecution of fisheries offences through the general criminal court system is slow and cumbersome, partly because the courts have large general caseloads that leave little time for specialised fisheries cases, and partly because the evidentiary requirements for successful prosecution, including the documentation of the violation and the chain of custody for evidence collected at sea, are technically complex. The proposal, noted in Part Eight, for the establishment of specialised maritime crime courts at Khulna and Chittagong would benefit the prosecution of fisheries offences as well as other maritime crimes.

The corruption dimension of fisheries enforcement deserves frank and direct acknowledgment. The fishing industry is a significant economic interest, and the enforcement of fisheries regulations by poorly paid government officials operating in remote coastal areas where supervision is difficult is vulnerable to corruption. Reports of licensing officials accepting bribes to issue licenses beyond the permitted quota, of enforcement officers accepting payments to ignore violations of gear restrictions and closed season rules, and of politically connected fishing operators receiving preferential treatment in the allocation of licenses and in the response to enforcement actions are widespread in the literature and in the accounts of fishers and NGO workers. Any realistic assessment of Bangladesh's fisheries governance must acknowledge this

corruption problem and design reform measures that address its structural causes, including inadequate salaries for enforcement officials, insufficient oversight and accountability mechanisms, and the concentration of discretionary authority in the hands of individual officials.

4.5 The Absence of Ecosystem-Based Management

Perhaps the most fundamental deficiency of the Marine Fisheries Ordinance is its complete absence of any provision reflecting the modern scientific paradigm of ecosystem-based fisheries management. The Ordinance manages individual fish species in isolation, setting rules for the catching of hilsa, shrimp, and specific other commercially important species, without any framework for understanding or managing the ecological relationships between species, between fish populations and their habitats, and between fishing operations and the broader marine ecosystem.

Ecosystem-based fisheries management is the approach that reflects the current scientific consensus on best practice in fisheries governance. It takes as its starting point the recognition that fish populations cannot be managed in isolation from the ecological systems of which they form a part, and that effective fisheries management must address the full range of human activities that affect marine ecosystems, including not only fishing but also pollution, habitat modification, coastal development, and climate change. The key principles of ecosystem-based management include the maintenance of biodiversity, the prevention of ecosystem state changes or tipping points that could permanently reduce ecosystem productivity, the incorporation of scientific uncertainty through precautionary management, and the integration of ecological, economic, and social objectives in management decisions.

The reform of Bangladesh's Marine Fisheries Ordinance must incorporate the principles of ecosystem-based management as a central feature. This will require a fundamental reorientation of the legal framework, from its current species-specific focus to a broader ecosystem framework that addresses the full range of ecological relationships relevant to fisheries management. It will also require investment in the scientific capacity to conduct ecosystem assessments and to develop ecosystem models that can inform management decisions, and in the institutional capacity to translate scientific analysis into regulatory action.

CHAPTER 5: IUU FISHING, PORT STATE MEASURES, AND BANGLADESH'S OBLIGATIONS

5.1 Defining IUU Fishing and Measuring Its Scale

Illegal, unreported, and unregulated fishing, universally referred to by the acronym IUU fishing, is one of the most significant challenges to sustainable fisheries governance globally and is particularly acute in the Bay of Bengal. The FAO's International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, adopted in 2001, defines the three components of IUU fishing as follows.

Illegal fishing refers to activities conducted by national or foreign vessels in waters under the jurisdiction of a state, without the permission of that state, or in contravention of its laws and regulations, or in violation of international law including the obligations of flag states under international law. Unreported fishing refers to fishing activities which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations, or have not been reported or misreported to the relevant regional fisheries management organisation. Unregulated fishing refers to fishing activities in areas or for fish stocks for which there are no applicable conservation or management measures, where such activities are conducted in a manner inconsistent with state responsibilities for the conservation of living marine resources under international law, or in areas beyond any national jurisdiction by vessels without nationality, or by vessels flying the flag of a state not party to the relevant regional fisheries management organisation, in a manner that is not consistent with or contravenes that organisation's conservation and management responsibilities.

The scale of IUU fishing globally has been estimated by various studies, with estimates ranging from 11 to 26 million tonnes per year, representing between 14 and 33 percent of the world capture fisheries production. The economic value of IUU fishing globally has been estimated at between 10 and 23.5 billion US dollars annually. In the Bay of Bengal specifically, the regional collaborative research conducted under the Bay of Bengal Large Marine Ecosystem Programme has identified substantial IUU fishing by both foreign and domestic vessels in the national EEZs of Bangladesh, India, and Myanmar.

For Bangladesh, the most significant IUU fishing problem involves unauthorized fishing by foreign fishing vessels in its EEZ, principally by vessels from India, Myanmar, and Southeast Asian nations, and by domestic vessels operating in violation of gear restrictions, closed season rules, or catch limits. The scale of foreign IUU fishing in Bangladesh's EEZ is difficult to quantify precisely because of the monitoring and enforcement challenges, but estimates from the Department of Fisheries and from independent researchers suggest that it may represent a very significant fraction of the total fish catch from Bangladesh's EEZ in any given year.

5.2 The Port State Measures Agreement: Implementation Challenges

As noted in Chapter 2, Bangladesh acceded to the PSMA in January 2016. The Agreement's implementation requires a comprehensive port management framework that goes significantly beyond what currently exists in Bangladesh's port governance system. The specific requirements of the PSMA include the following operational elements that Bangladesh must put in place.

Bangladesh must designate and publicize the ports to which foreign fishing vessels may request entry and the information to be provided in advance of such entry. The information requirements include the identity of the vessel, its flag state, and the nature of its fishing licence, as well as details of the fish on board and the fishing areas from which it originated. Bangladesh must establish a system for the assessment of advance notifications and must be prepared to deny entry to vessels where there are sufficient grounds to believe that the vessel has been engaged in IUU fishing or related activities.

Bangladesh must conduct inspections of a significant proportion of foreign fishing vessels calling at its ports, in accordance with the minimum standards established by the PSMA. These inspections must cover the documents carried by the vessel, the vessel's equipment and fishing gear, the fish on board and any documentation of its origin, and the general condition and safety of the vessel. Inspection reports must be prepared and transmitted to the flag state of the inspected vessel and, where IUU fishing is detected, to the relevant regional fisheries management organisations.

Bangladesh must deny port services, including the landing and transhipment of fish, to vessels found to have been engaged in IUU fishing, and must not allow the proceeds of IUU fishing to enter the supply chain from Bangladesh's ports. This requirement has significant implications for the management of Bangladesh's fishing ports, particularly the Chittagong fishing harbour and the Moheshkhali and Cox's Bazar fishing terminals, which handle large volumes of fish landed by both domestic and foreign vessels.

The practical implementation of these requirements requires investment in port management infrastructure, including documentation systems, inspection facilities, and trained personnel, that Bangladesh's current port management apparatus does not fully possess. The FAO's PSMA implementation support programme, which provides technical assistance to acceding states, has been providing support to Bangladesh in developing implementation capacity, but progress has been slower than necessary to achieve full compliance with the Agreement's requirements.

5.3 The Flag State Responsibilities of Bangladesh

Bangladesh's obligations in relation to IUU fishing are not limited to its role as a port state. As a flag state for fishing vessels operating in both national and international waters, Bangladesh has responsibilities under UNCLOS and international fisheries law to ensure that its fishing vessels do not engage in IUU fishing in any area, including the EEZ's of other states and the high seas.

UNCLOS Article 94 establishes the general obligation of flag states to exercise effective jurisdiction and control over vessels flying their flag in administrative, technical, and social matters. In the fisheries context, this means that Bangladesh is responsible for ensuring that Bangladesh-flagged fishing vessels carry valid fishing authorizations for the areas in which they operate, that their catches are reported accurately, that they comply with the conservation and management measures of relevant regional fisheries management organisations, and that they do not engage in fishing activities in the EEZs of other states without that state's permission.

The FAO's Voluntary Guidelines for Flag State Performance, adopted in 2014, provide detailed guidance on the measures that flag states should take to prevent their vessels from engaging in IUU fishing. These guidelines cover the registration and licensing of fishing vessels, monitoring and control of vessel activities, enforcement, information collection and sharing, and international cooperation. Bangladesh's compliance with these guidelines is a matter of international fisheries governance standing that affects its credibility in regional and international fisheries bodies.

The FAO's Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, which Bangladesh is required to contribute to as a PSMA party, provides a mechanism for the tracking of vessel identity and authorization status that supports the detection of IUU fishing. Bangladesh's contribution to the Global Record requires the maintenance of accurate vessel registration data and the systematic reporting of the licensing status of Bangladesh-flagged fishing vessels, which in turn requires a domestic vessel registration system that is more comprehensive and more accurately maintained than what currently exists.

5.4 Bangladesh's Experience with IUU Fishing Enforcement

The practical record of IUU fishing enforcement in Bangladesh's waters illustrates both the scale of the problem and the inadequacy of current governance. Reports from the Bangladesh Coast Guard and the Department of Fisheries document numerous incidents of foreign fishing vessels apprehended operating without licenses in Bangladesh's EEZ, of domestic vessels using banned gear and violating closed season restrictions, and of fish landings at Bangladesh's fishing harbours that significantly understate the actual catch.

Several high-profile enforcement operations by the Bangladesh Navy and Coast Guard in the years following the maritime boundary awards of 2012 and 2014 resulted in the apprehension of foreign fishing vessels in Bangladesh's newly confirmed EEZ, underscoring both the enforcement challenges and the importance of the boundary delimitation for Bangladesh's ability to assert its fisheries jurisdiction. These operations generated diplomatic exchanges with India and Myanmar about the treatment of apprehended vessels and their crews, illustrating the bilateral dimensions of EEZ fisheries enforcement.

The prosecution of IUU fishing cases through Bangladesh's court system has been slow and often inconclusive. The technical complexity of establishing jurisdiction over foreign vessels in the EEZ, of proving the specific violations alleged, and of navigating the procedural requirements of the criminal justice system has resulted in many cases being dropped or resulting in minimal penalties that do not reflect the seriousness of the offence. The reform of the prosecution framework for IUU fishing, including the establishment of specialised fisheries enforcement tribunals and clearer evidentiary rules for maritime prosecutions, is an essential component of the comprehensive fisheries law reform agenda.

CHAPTER 6: REGIONAL FISHERIES GOVERNANCE IN THE BAY OF BENGAL

6.1 The Architecture of Regional Fisheries Cooperation

The governance of fisheries in the Bay of Bengal cannot be effectively achieved through national action alone. The Bay of Bengal is a semi-enclosed sea, as noted in Part One of this commentary, whose fisheries resources do not respect national maritime boundaries. Fish migrate across the boundaries between Bangladesh's EEZ, India's EEZ, Myanmar's EEZ, Sri Lanka's EEZ, and the high seas of the central and southern Bay. The sustainable management of these shared stocks

requires regional cooperation in scientific research, data collection, management measures, enforcement, and capacity building.

The regional architecture for fisheries cooperation in the Bay of Bengal is, however, fragmented and underdeveloped. There is no single regional fisheries management organisation with comprehensive jurisdiction over Bay of Bengal fisheries comparable to the Northeast Atlantic Fisheries Commission or the Northwest Atlantic Fisheries Organization that govern the North Atlantic fisheries. Instead, fisheries governance in the Bay is distributed across several overlapping regional bodies with different memberships, different mandates, and different legal statuses.

The Indian Ocean Tuna Commission, as discussed in Chapter 2, has jurisdiction over tuna and tuna-like species throughout the Indian Ocean, including the Bay. The Bay of Bengal Programme Inter-Governmental Organisation, known as BOBP-IGO, was established in 2003 with its headquarters in Chennai, India, and has a mandate to address fisheries development and management in the Bay of Bengal, with a particular focus on small-scale fisheries. BOBP-IGO's current membership includes Bangladesh, India, Myanmar, and Sri Lanka, and it has been the primary vehicle for the development of regional small-scale fisheries data collection, stock assessment, and governance capacity. The South Asian Association for Regional Cooperation, SAARC, has addressed fisheries matters through its agriculture and rural development processes, though SAARC's institutional effectiveness has been limited by the India-Pakistan political dynamic.

The BIMSTEC Agreement on Maritime Transport Cooperation, adopted in 2025, includes provisions relevant to fisheries governance, including commitments to share information on fishing vessel activities and to cooperate in fisheries monitoring and control. The development of a specific BIMSTEC fisheries protocol, building on the framework of the AMTC and addressing the management of shared stocks, the harmonisation of national fisheries regulations, and the development of joint enforcement arrangements, is an important medium-term objective for Bangladesh's regional fisheries diplomacy.

6.2 The Hilsa Shad: A Case Study in Shared Stock Management

The management of the hilsa shad provides the most instructive case study of both the importance and the challenges of regional fisheries cooperation in the Bay of Bengal. The hilsa is a highly migratory species that moves between the Bay of Bengal, where it feeds and matures, and the freshwater rivers of Bangladesh, India, and Myanmar, where it spawns. The stock is therefore shared among at least three coastal states, whose separate national management measures interact in ways that may undermine the effectiveness of each.

Bangladesh has invested significantly in hilsa conservation, including the closed season during spawning, the Jatka protection programme, the deployment of Jatka patrols, and a compensation scheme for affected fishers. These measures have been relatively successful in improving hilsa recruitment, and population surveys suggest that hilsa numbers have increased in response to the conservation measures. However, if India and Myanmar do not apply comparable conservation measures to the hilsa populations in their own waters, the conservation gains achieved through

Bangladesh's measures may be partially offset by increased fishing pressure in the other states' waters.

The development of a trilateral agreement between Bangladesh, India, and Myanmar on the coordinated management of the hilsa shad is therefore an important scientific, legal, and diplomatic priority. Such an agreement should be built on the scientific foundation of joint stock assessment that treats the hilsa population as a single biological unit spanning all three states' waters, should establish a coordinated closed season and Jatka protection programme across all three states, and should include mechanisms for the sharing of scientific data, the harmonisation of enforcement approaches, and the development of coordinated compensation programmes for affected fishing communities.

The legal framework for such an agreement exists in UNCLOS Article 63, which requires states whose EEZs contain shared stocks to agree upon measures necessary to coordinate and ensure the conservation and development of such stocks. The 2014 PCA award on Bangladesh-India maritime boundary, which determined the extent of Bangladesh's EEZ, provides the legal framework within which such an agreement would operate. The challenge is political rather than legal: the relationship between Bangladesh and India has been subject to tensions in recent years, and the relationship between both countries and Myanmar has been complicated by the Rohingya crisis. Achieving a trilateral fisheries agreement requires the kind of sustained and patient diplomatic engagement that prioritises long-term ecological and economic interests over short-term political considerations.

6.3 The Problem of Shared Stocks with India

The management of shared fish stocks along the India-Bangladesh maritime boundary is a more immediate and practically significant challenge than the trilateral hilsa management question, because the boundary zone is where fishing vessels from both countries most frequently interact and where enforcement controversies are most likely to arise. The grey area problem identified in Part One of this commentary creates particular complexity for fisheries governance in the area where Bangladesh has continental shelf rights in the seabed but India has EEZ rights in the superjacent water column.

In the grey area, the bottom-dwelling demersal fish species that Bangladesh-flagged vessels might target are resting on a seabed over which Bangladesh has sovereign rights, while the water column above is an area where India has EEZ rights for the purpose of fisheries management. This creates a situation where Bangladesh fishers targeting demersal species in the grey area may be technically operating in an area where India also has fisheries jurisdiction, creating the possibility of competing enforcement actions by both countries' maritime agencies and significant legal uncertainty for the fishers involved.

The bilateral fisheries management relationship between Bangladesh and India must be developed to address this complexity. A bilateral fisheries management agreement that specifically addresses the grey area would provide legal clarity for fishers operating in this zone, establish agreed procedures for enforcement in the event of violations, and create a framework

for the joint monitoring and management of fish stocks in the boundary zone. The negotiation of such an agreement is a specific priority for Bangladesh's fisheries diplomacy with India.

6.4 The Bay of Bengal Large Marine Ecosystem Programme and its Legal Implications

The Bay of Bengal Large Marine Ecosystem Programme, a regional initiative supported by the Global Environment Facility and implemented through UNDP, FAO, and IMO, has produced significant scientific knowledge about the state of the Bay of Bengal ecosystem and the pressures that human activities are placing upon it. The Programme's work on fisheries stock assessment, ecosystem modelling, and governance analysis has contributed substantially to the scientific basis for Bay of Bengal fisheries management, and its findings have important implications for Bangladesh's domestic fisheries law reform.

Among the Programme's most significant findings is that several commercially important fish stocks in the Bay of Bengal are currently at or below the maximum sustainable yield level, meaning that the current level of fishing effort is at or beyond the biological limit of what the ecosystem can sustain. The Programme's governance analysis has identified the key institutional and legal gaps in regional fisheries governance that contribute to this overfishing, including the absence of a regional stock assessment mechanism, the lack of harmonised regulations across national fisheries jurisdictions, the inadequacy of regional monitoring and enforcement arrangements, and the insufficient integration of environmental and climate science into fisheries management decisions.

The Programme's ecosystem modelling has produced scenario analyses of the future state of the Bay of Bengal fishery under different management regimes, providing a quantitative basis for evaluating the conservation and economic trade-offs of different policy options. These models should be incorporated into Bangladesh's domestic fisheries management processes, with a mechanism for their regular updating as new scientific data become available and for the translation of model outputs into specific management decisions including total allowable catch determinations.

CHAPTER 7: THE RIGHTS OF SMALL-SCALE FISHERS: SOCIAL JUSTICE AND LEGAL RECOGNITION

7.1 The International Framework for Small-Scale Fisheries Rights

The rights of small-scale and artisanal fishers have been increasingly recognised in international law and policy as a matter of social justice, food security, and human rights. The FAO's Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted in 2015, represent the most comprehensive international instrument on the rights of small-scale fishers. The Guidelines recognise the particular vulnerability of small-scale fishers to displacement by large-scale commercial operators, to the effects of coastal development and pollution on their traditional fishing grounds, and to the impacts of climate change on their livelihoods and food security.

The SSF Guidelines, as they are known, establish a set of principles and recommendations covering the recognition and protection of tenure rights to fishing grounds and coastal resources; responsible fisheries and sustainable resource use; social development, employment, and decent work; value chains, post-harvest, and trade; gender equality and equity; disaster risks, climate change, and environmental sustainability; and governance, policy, and institutional frameworks. They call specifically on states to provide legal recognition and protection to tenure rights of small-scale fishers, to ensure that small-scale fishers have equal access to fishery resources and are not disadvantaged by large-scale commercial operations, and to implement social protection measures that reduce the vulnerability of fishing communities to economic shocks, natural disasters, and climate change impacts.

Bangladesh's domestic legal framework does not specifically implement the SSF Guidelines. The Marine Fisheries Ordinance does not distinguish between small-scale and commercial fisheries in a manner that reflects the different governance needs and rights of these sectors, and it does not provide specific protections for the tenure rights of traditional fishing communities. The reform of Bangladesh's fisheries law must specifically address the SSF Guidelines framework and incorporate its principles into the domestic legislative and regulatory structure.

7.2 Constitutional Rights and the Protection of Fishing Communities

The Constitution of Bangladesh provides important foundations for the rights of fishing communities that have not been fully developed in the context of fisheries law. Article 15 of the Constitution imposes an obligation on the state to ensure the right to food and livelihood for all citizens, which encompasses the right of fishing communities to access the marine resources that form the basis of their subsistence and livelihood. Article 16 provides for rural development and agricultural development, which in the Bangladesh context includes the coastal fishing sector. Article 19 provides for equality of opportunity, which in the fisheries context means that small-scale fishers should not be systematically disadvantaged in their access to fishery resources by the design of governance frameworks that favour large commercial operators.

The constitutional dimension of fisheries rights has been developed to a limited extent through court decisions. The Supreme Court of Bangladesh has, in several environmental cases, invoked the constitutional right to life guaranteed by Article 32 in the context of the right to a healthy environment and to access to natural resources. The articulation of a more robust constitutional jurisprudence of fishing rights, drawing on the right to livelihood, the right to food, and the right to a healthy environment, would provide a stronger legal foundation for the protection of small-scale fishing communities' interests in fisheries governance decisions.

The courts of other South Asian jurisdictions have developed significant jurisprudence on the constitutional rights of fishing communities that provides persuasive authority for the development of Bangladesh's own jurisprudence in this area. The Supreme Court of India has decided several cases involving the rights of traditional fishing communities in Kerala and other coastal states, holding that the traditional rights of fishers in coastal waters deserve protection against commercial encroachment. The constitutional jurisprudence of Sri Lanka, which has a more developed body of maritime and environmental constitutional law than Bangladesh, also provides relevant comparative material.

7.3 Gender Dimensions of Fisheries Rights

Women in Bangladesh's coastal fishing communities play roles that are essential to the functioning of the fisheries sector but that are largely invisible in the formal governance framework. Post-harvest processing, which includes the cleaning, salting, drying, and marketing of fish, is predominantly performed by women, who constitute the majority of workers in this critical segment of the fisheries value chain. Women also play key roles in the management of fishing household finances, in the care of children and elderly family members during the long absences of male fishers at sea, and in the maintenance of the social networks that provide mutual support in times of hardship.

The legal framework governing women's participation in fisheries is inadequate in several respects. First, the licensing and registration system for fishing vessels does not reflect women's participation in the fisheries sector, which means that women are not counted among the license holders and do not have formal legal standing as rights holders in the fisheries governance system. Second, the labour law framework applicable to post-harvest processing workers, who are predominantly female, provides inadequate protections for their wages, working conditions, occupational health and safety, and access to social protection. Third, the land tenure and property rights framework disadvantages women in their access to the coastal land and infrastructure necessary for the conduct of post-harvest activities.

The reform of Bangladesh's fisheries law must incorporate a gender-sensitive framework that makes women's contributions to the fisheries sector legally visible, protects their labour rights in post-harvest processing, and ensures their participation in the governance processes through which decisions about fisheries management are made. The SSF Guidelines' specific provisions on gender equality, including the recommendation that states take measures to ensure equitable participation of women in fisheries governance bodies, should be specifically implemented in the reformed legislative framework.

The development lens of Amartya Sen's capability approach, discussed in Part One of this commentary, is particularly relevant to the gender dimensions of fisheries rights. Sen's concept of substantive freedom, as distinct from formal legal freedom, requires that governance frameworks not only formally grant rights to women but actually create the conditions in which women can exercise those rights in practice. In the fisheries context, this means not only recognising women's legal rights as fisheries workers and resource users but ensuring that women have the practical capacity to participate in governance processes, to access credit and technical support for fisheries activities, and to assert their legal rights against informal social norms that may constrain their exercise.

7.4 Coastal Community Rights, Displacement, and Legal Accountability

The development of coastal infrastructure, including ports, industrial zones, naval facilities, and tourism resorts, has in numerous cases in Bangladesh resulted in the displacement of fishing communities from their traditional landing sites, access roads, and coastal habitations. These displacements have rarely been accompanied by adequate compensation, resettlement assistance, or legal challenge, partly because the affected communities lack the legal knowledge and

financial resources to pursue legal remedies, and partly because the legal framework for the protection of fishing community land and resource tenure rights is inadequate.

The development of the Matarbari deep-sea port in Cox's Bazar district, which is the most significant port infrastructure project currently underway in Bangladesh, has affected coastal fishing communities in the area through the disruption of traditional fishing routes, the reduction of coastal fishing grounds by industrial construction activities, and the displacement of families from coastal lands acquired for port infrastructure. The Environmental and Social Impact Assessment conducted for the Matarbari project identified these impacts and recommended mitigation and compensation measures, but the implementation of these recommendations has been incomplete.

A reformed fisheries law framework should include specific provisions on the rights of fishing communities in relation to coastal development. These provisions should require that any coastal development project that affects traditional fishing grounds conduct a specific fisheries impact assessment, that fishing communities be consulted in the planning of such projects through meaningful and accessible consultation processes, that compensation for affected fishing rights be calculated on the basis of the actual economic value of those rights and not merely the market value of the physical land, and that displaced fishing communities be resettled in locations where they have access to equivalent fishing opportunities.

The international framework for the protection of indigenous and community tenure rights, particularly the UN Declaration on the Rights of Indigenous Peoples of 2007, which Bangladesh voted in favour of, and the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests, known as the Tenure Guidelines, adopted by the FAO Committee on World Food Security in 2012, provide important normative resources for the development of domestic legal protections for fishing community tenure rights. Bangladesh's legal obligation to respect the Tenure Guidelines, and its commitment to the principles of the UN Declaration, should be explicitly reflected in the reformed fisheries law.

CHAPTER 8: FISHERIES, CLIMATE CHANGE, AND THE ECOLOGICAL CRISIS

8.1 The Climate-Fisheries Nexus: Scientific Evidence and Legal Implications

The relationship between climate change and the fisheries of the Bay of Bengal is one of the most rapidly developing areas of marine environmental science, and its legal implications for Bangladesh's fisheries governance are profound. The scientific evidence, as reviewed by the IPCC and by regional scientific programmes including the Bay of Bengal Large Marine Ecosystem Programme, documents a wide range of climate-driven changes in the Bay of Bengal that are affecting fish population dynamics, species distribution, and the productivity of the marine ecosystem.

Ocean warming in the Bay of Bengal, which is warming at a rate consistent with global trends, is affecting the distribution and seasonal timing of fish populations. Several commercially

important species are shifting their distribution toward deeper and cooler waters or toward higher latitudes, moving out of Bangladesh's coastal fishing grounds and into areas less accessible to the small-scale fishing fleet. The disruption of the monsoon cycle, which is the primary driver of the seasonal pattern of the Bay of Bengal fishery, is altering the timing and magnitude of the river discharge that fuels coastal productivity, with uncertain effects on fish recruitment and abundance. Ocean acidification is affecting the calcified organisms at the base of the food chain, with potential cascading effects on the entire food web that supports the Bay of Bengal fishery.

The legal implications of these climate-driven changes for Bangladesh's fisheries governance are multiple. First, management measures that were calibrated to the pre-climate-change ecology of the Bay of Bengal fishery may not remain appropriate as the ecology changes. Total allowable catch levels, closed season timing, marine protected area boundaries, and gear restrictions that were designed in accordance with the historical ecology of the fishery may need to be adjusted as climate change alters the distribution, abundance, and seasonal patterns of fish populations. A reformed fisheries law must include mechanisms for the regular review and adaptive adjustment of management measures in response to changing ecological conditions.

Second, the climate change impacts on fisheries are not uniform across species and sectors. Some species may benefit from warmer temperatures and altered circulation patterns, while others will be disadvantaged. Some fishing communities, particularly those operating in deeper offshore waters, may be better positioned to adapt to changing fish distributions than others, particularly those dependent on coastal and estuarine species. The distributive dimensions of climate change impacts on fisheries require specific attention in the design of adaptive management measures.

Third, the contribution of fishing operations to climate change, through the fuel consumption of fishing vessels and the associated greenhouse gas emissions, is a dimension of the fisheries-climate nexus that a reformed legal framework must address. The ITLOS Advisory Opinion's confirmation that greenhouse gas emissions constitute marine pollution under UNCLOS creates a legal basis for domestic regulatory measures to reduce the carbon footprint of the fishing fleet. The development of standards for fuel efficiency and the promotion of low-carbon fishing technologies should be incorporated into the reformed fisheries regulatory framework.

8.2 The 2024 ITLOS Advisory Opinion and Bangladesh's Fisheries Obligations

The 2024 ITLOS Advisory Opinion on climate change obligations under UNCLOS, analysed in detail in Part Seven of this commentary, has specific implications for Bangladesh's fisheries governance that deserve systematic consideration. The Advisory Opinion established that states have due diligence obligations under UNCLOS Part XII to prevent, reduce, and control marine pollution caused by anthropogenic greenhouse gas emissions. In the fisheries context, these obligations intersect with the fisheries management obligations of Articles 61 to 67 in ways that create a reinforcing framework of legal accountability.

The due diligence standard established by the Advisory Opinion requires states to take all necessary measures to prevent, reduce, and control greenhouse gas-related marine pollution, using the best available science and the best available technology, in a manner that is consistent

with the state's capabilities and its international commitments. For Bangladesh, this means that its fisheries governance framework must incorporate climate change considerations not merely as an advisory or aspirational element but as a legally binding component of the due diligence standard for marine environmental governance.

Practically, this requires that Bangladesh's fisheries management include the following climate-related elements. The total allowable catch determinations for all commercially important species must take into account the best available science on how climate change is affecting stock productivity, distribution, and resilience. Marine protected areas must be designed and managed with climate change adaptation in mind, prioritising the protection of climate refugia, the maintenance of ecological connectivity, and the preservation of habitats that serve as carbon sinks, including the mangrove forests of the Sundarbans. The fishing fleet's greenhouse gas emissions must be subject to regulatory oversight and reduction targets consistent with Bangladesh's national climate commitments and its due diligence obligations under UNCLOS.

The Advisory Opinion's emphasis on the common but differentiated responsibilities principle, which acknowledges that developed states bear greater historical responsibility for climate change and should therefore bear greater responsibility for mitigation, is relevant to Bangladesh's fisheries governance in an important way. While Bangladesh has due diligence obligations under UNCLOS to manage its fisheries in a manner that minimises the contribution to marine pollution from all sources including greenhouse gases, the major emitting states bear a primary responsibility for the climate change that is degrading Bangladesh's fisheries. Bangladesh's climate litigation strategy, advocated in several recent academic publications and in the government's international climate diplomacy, should explicitly invoke the fisheries dimension of the climate damage that Bangladesh is suffering, making the connection between the legal obligations confirmed by the Advisory Opinion and the concrete economic and humanitarian harm that climate change is causing to Bangladesh's fishing communities.

8.3 Adaptation Strategies for Bangladesh's Fisheries Sector

The adaptation of Bangladesh's fisheries governance to the realities of climate change requires both immediate practical measures and longer-term structural reforms. The scientific evidence suggests that the Bay of Bengal fishery is already experiencing significant climate-driven change, and that the rate and magnitude of this change will accelerate over the coming decades. Bangladesh cannot wait for perfect scientific certainty before acting; it must act now, on the basis of the best available science, in accordance with the precautionary approach that both the ITLOS Advisory Opinion and the FAO Code of Conduct require.

The most important immediate practical adaptation measures include the development of a climate-integrated fisheries management framework that incorporates climate projections into stock assessment models and uses these projections to inform total allowable catch determinations and other management decisions. This requires investment in the modelling capacity of the Bangladesh Fisheries Research Institute, including the development of coupled climate-fisheries models for the principal commercial species of Bangladesh's EEZ.

Ecosystem restoration, particularly the restoration of mangrove forests and coastal wetlands that serve as critical habitats for juvenile fish and as carbon sinks, is both a climate adaptation and a climate mitigation strategy that directly benefits fisheries. Bangladesh's current coastal afforestation programme, which has restored significant areas of mangrove forest in the Sundarbans and along the coastal belt, should be expanded and legally consolidated through the reformed fisheries and coastal zone management framework.

The development of diversified livelihood options for fishing communities, reducing their dependence on any single species or fishing method that may be particularly vulnerable to climate change impacts, is an important social adaptation strategy. The promotion of alternative aquaculture species, the development of coastal tourism enterprises, and the improvement of post-harvest processing and value-added seafood production can all contribute to livelihood diversification, but they require both legal enabling frameworks and institutional support mechanisms.

8.4 Sea Level Rise, Baseline Instability, and Fisheries Governance

The relationship between sea level rise and Bangladesh's fisheries governance is a dimension of the climate-fisheries nexus that has received insufficient attention in both legal and policy discussions. As sea levels rise and coastal erosion intensifies, the physical geography of Bangladesh's coast is changing in ways that directly affect the location of fishing communities, the accessibility of fishing grounds, and the configuration of the coastal habitats on which fisheries productivity depends.

The baseline from which Bangladesh's maritime zones are measured is defined as the low-water line along the coast. As sea levels rise, the low-water line moves landward, potentially reducing the area of Bangladesh's internal waters and affecting the measurement of the baseline from which the territorial sea and EEZ are measured. The legal implications of this baseline migration for the extent of Bangladesh's maritime jurisdiction have been discussed in the international legal literature in the context of the broader debate about sea level rise and UNCLOS baselines, but they have not been specifically addressed in Bangladesh's domestic legal framework.

The position that Bangladesh has taken in the context of the COSIS Advisory Opinion proceedings and in its broader international climate diplomacy, that the maritime boundaries and entitlements of climate-vulnerable states should be maintained notwithstanding the physical changes caused by sea level rise, is legally important and deserves specific expression in domestic legislation. The Territorial Waters and Maritime Zones Act and the Marine Fisheries Ordinance should be amended to incorporate a provision affirming that Bangladesh's maritime zones and fisheries jurisdiction are maintained at their current extent and location notwithstanding any landward migration of the physical coastline caused by sea level rise attributable to anthropogenic climate change.

This provision would be consistent with the principle, endorsed in the COSIS Advisory Opinion preamble, that the maritime boundaries and entitlements of climate-vulnerable states should not be reduced as a consequence of physical changes caused by the greenhouse gas emissions of other states. It would also be consistent with the principle of state responsibility: if the physical

damage to Bangladesh's coast is caused by the illegal marine pollution of other states, as the Advisory Opinion confirms, then Bangladesh should not be required to bear the legal consequences of that damage in the form of reduced maritime jurisdiction.

CHAPTER 9: AQUACULTURE LAW AND THE GOVERNANCE OF COASTAL PRODUCTION SYSTEMS

9.1 The Significance of Aquaculture in Bangladesh's Fisheries Economy

Aquaculture, the farming of fish, shellfish, and other aquatic organisms, has become an increasingly important component of Bangladesh's fisheries economy over the past three decades. Bangladesh is now one of the world's largest producers of farmed fish by volume, with aquaculture production exceeding capture fisheries production in some recent years, driven primarily by the rapid growth of the pond-based tilapia and pangasius industry and the continued importance of the coastal shrimp farming sector.

The legal governance of aquaculture in Bangladesh is complex because it spans both the marine and freshwater environments, involves different categories of land and water tenure, and engages multiple government ministries and agencies. The Marine Fisheries Ordinance of 1983 was not designed to address marine aquaculture, and its provisions are largely irrelevant to the specific governance challenges of this sector. The coastal shrimp farming industry, which has been the most economically significant form of marine aquaculture in Bangladesh, is governed by a patchwork of regulations under the Marine Fisheries Ordinance, the Environment Conservation Act of 1995, the Shrimp Cultivation (Restriction) Act of 2002, and various departmental regulations, without a coherent and comprehensive framework.

The expansion of the coastal shrimp farming industry since the 1980s has been associated with severe environmental and social consequences that illustrate the inadequacy of the current regulatory framework. The conversion of mangrove forests to shrimp farms has contributed significantly to the loss of coastal mangrove cover, with cascading negative effects on fish habitat, coastal protection, and carbon sequestration. The intrusion of saline water from shrimp ponds into adjacent agricultural land has reduced rice cultivation areas and water availability for farming communities. And the capture and cultivation of juvenile shrimp seed, known as post-larvae, from coastal waters has depleted wild shrimp populations and caused extensive by-catch mortality of juvenile fish and other marine organisms.

The legal reform of aquaculture governance must address these environmental and social costs while preserving and expanding the economic benefits of aquaculture for Bangladesh's food security and export earnings. A reformed framework should establish specific environmental standards for the siting and operation of coastal aquaculture facilities, require environmental impact assessments for new aquaculture developments, prohibit the conversion of mangrove forests for aquaculture, regulate the collection of wild seed and post-larvae from coastal waters, and create a certification and traceability framework that supports the export of Bangladesh's aquaculture products to demanding markets.

9.2 Offshore Aquaculture: Legal Frameworks and Opportunities

The development of offshore aquaculture, specifically the culture of marine fish and shellfish in open sea facilities located in Bangladesh's EEZ rather than in coastal land-based or near-shore areas, is an emerging sector that presents both significant economic opportunities and specific legal governance challenges. Offshore aquaculture is practiced in several developed countries, including Norway and Japan, using submerged or surface cage systems positioned in exposed open water environments. For Bangladesh, offshore aquaculture could potentially provide an alternative to the environmentally damaging coastal shrimp farming industry, producing high-value marine fish and shellfish for export markets without the mangrove destruction and salinization problems associated with coastal shrimp farming.

The legal framework for offshore aquaculture in Bangladesh is currently non-existent. The Marine Fisheries Ordinance does not address marine aquaculture at all, and there is no specific legislation authorising, regulating, or providing procedures for the licensing of offshore aquaculture facilities in the EEZ. The creation of a legal framework for offshore aquaculture is an important element of the blue economy legal reform agenda, but it requires careful attention to several specific legal issues.

First, the granting of aquaculture licenses for offshore facilities in the EEZ implicates the coastal state's jurisdiction over artificial islands, installations, and structures under UNCLOS Article 60. The establishment of offshore aquaculture facilities constitutes the creation of artificial structures in the EEZ, which requires authorization by the coastal state under Article 60. The legal basis for the granting of such authorization exists under UNCLOS, but needs to be specifically implemented in domestic legislation with a clear licensing procedure, operational standards, and enforcement framework.

Second, the environmental governance of offshore aquaculture facilities must address the potential impacts on the marine environment, including the discharge of excess nutrients and waste, the risk of escape of farmed fish and the genetic impact on wild populations, the use of antibiotics and other chemicals, and the interaction with marine mammals, seabirds, and other wildlife. A domestic environmental impact assessment requirement for offshore aquaculture developments, consistent with UNCLOS Part XII standards and with the best available science on marine aquaculture environmental impacts, should be incorporated in the reformed legal framework.

Third, the rights of traditional fishers in relation to offshore aquaculture facilities must be addressed. The designation of sea areas for aquaculture will in principle exclude traditional fishing from those areas, and the affected fishers must be consulted in the planning process and compensated for any loss of fishing rights. The marine spatial planning framework proposed below is an essential component of the governance of offshore aquaculture, providing a transparent and participatory process for the allocation of sea space among competing uses.

CHAPTER 10: MARINE SPATIAL PLANNING AND THE LEGAL ARCHITECTURE OF OCEAN GOVERNANCE

10.1 Marine Spatial Planning as a Legal Concept

Marine spatial planning is the process by which the competing and sometimes conflicting uses of the maritime space are analysed, allocated, and managed through a transparent, participatory, and science-based governance process. It is the maritime analogue of terrestrial land use planning, and like land use planning, it provides a framework for the coordination of different activities in a given geographic space in a manner that minimises conflict, prevents irreversible damage, and promotes the long-term productivity and sustainability of the space.

The legal basis for marine spatial planning in international law derives from several sources. UNCLOS's provisions on the EEZ grant the coastal state jurisdiction over the use of the EEZ for economic purposes, including the authority to regulate the construction of installations, the conduct of marine scientific research, and the protection of the marine environment. UNCLOS Articles 56 and 60, read together, provide the coastal state with comprehensive authority to plan and regulate the use of its EEZ in a manner consistent with its international obligations. The Convention on Biological Diversity's ecosystem approach, and the associated Aichi Biodiversity Targets agreed in 2010, provide a framework for the integration of biodiversity conservation into marine spatial planning. The BBNJ Agreement's provisions on area-based management tools provide a complementary framework for the extension of spatial management to areas beyond national jurisdiction.

The development of marine spatial planning as a domestic governance tool has been encouraged by the FAO, the IOC-UNESCO, and the World Bank, which have all published technical guidance on marine spatial planning processes and frameworks. Several coastal states at a similar stage of development to Bangladesh have developed marine spatial planning frameworks that provide instructive comparative models. Indonesia's national ocean spatial plan, developed under the Spatial Planning Law of 2007 and the Sea Law of 2014, provides a comprehensive framework for the designation of sea areas for different uses, including conservation, fisheries, shipping, tourism, and energy development. Vietnam's Law of the Sea of 2012 includes provisions on marine spatial planning that integrate fisheries governance with broader ocean governance. Sri Lanka has been developing a marine spatial planning framework with the support of the EU Blue Growth programme, providing a recent regional example.

10.2 The Legal Basis for Marine Spatial Planning in Bangladesh

Bangladesh currently lacks a specific legal framework for marine spatial planning. The governance of different uses of Bangladesh's maritime zones is conducted through sector-specific legislation and regulations, without a coordinating framework that allocates sea space across sectors in a coherent and environmentally sustainable manner. This absence of marine spatial planning creates conflicts between fishing activities and shipping, between fisheries and hydrocarbon development, between conservation areas and commercial uses, and between the rights of traditional communities and the expansion of industrial activities.

The legal basis for marine spatial planning in Bangladesh's existing framework can be found, albeit in fragmented and incomplete form, in several legislative provisions. The Territorial Waters and Maritime Zones Act and its 2021 Amendment provide the general framework for Bangladesh's exercise of jurisdiction in its maritime zones, including the authority to regulate economic activities and to protect the marine environment. The Environment Conservation Act of 1995 provides the legal basis for environmental impact assessment and for the designation of ecologically critical areas, both of which are relevant to marine spatial planning. The Bangladesh Forest Act provides the basis for the management of the Sundarbans mangrove forest and other coastal forests, which are important components of the marine spatial context.

The establishment of a comprehensive marine spatial planning framework for Bangladesh requires dedicated legislation that consolidates and clarifies the legal basis for marine spatial planning, establishes the institutional process through which the marine spatial plan is developed and updated, defines the legal force of the plan and the mechanisms for its implementation, and provides for the participation of stakeholders, including fishing communities, in the planning process. The development of such legislation is a specific recommendation of this commentary and should be a priority of the comprehensive maritime law reform agenda.

10.3 The Sundarbans as a Marine Spatial Planning Challenge

The Sundarbans, the world's largest mangrove forest, occupies a special position in any marine spatial planning framework for Bangladesh. It is simultaneously a UNESCO World Heritage Site, a Ramsar wetland, a critical habitat for the Bengal tiger and numerous other globally threatened species, a major carbon sink, a coastal protection system of enormous importance for the approximately four million people who live in its vicinity, and a fisheries nursery area on which the productivity of Bangladesh's entire coastal fishery depends.

The legal governance of the Sundarbans involves an extraordinary complexity of overlapping national and international legal frameworks. The Sundarbans Protected Area, designated under the Wildlife Protection Act, covers the core wildlife habitat. The Sundarbans Reserve Forest, designated under the Forest Act, covers the surrounding forested areas. The Sundarbans is registered as a World Heritage Site under the World Heritage Convention, creating international obligations regarding its management and protection. It is a Ramsar wetland of international importance, creating obligations under the Ramsar Convention. It is also an Ecologically Critical Area under the Environment Conservation Act. These multiple designations reflect the extraordinary ecological significance of the Sundarbans but also create a complex governance architecture in which the responsibilities of different agencies are not always clearly defined.

The fisheries governance dimensions of the Sundarbans are complex because the mangrove system serves simultaneously as a habitat for commercially important fish and crustaceans, as a nursery area for juveniles of species that are exploited as adults in the open sea, and as a traditional fishing ground for millions of small-scale fishers who have depended on its resources for generations. The rights of these traditional fishers in the Sundarbans zone are inadequately protected in the current legal framework, which tends to treat them as a threat to conservation rather than as stewards with a legitimate stake in the ecosystem's health.

A reformed marine spatial planning framework for the Sundarbans zone should recognise and protect the traditional fishing rights of the communities that have sustainably exploited its resources for centuries, while establishing conservation standards that prevent unsustainable exploitation and protect the broader ecological values of the ecosystem. This requires a participatory governance approach, informed by traditional ecological knowledge as well as modern conservation science, that treats fishing communities as partners in conservation rather than obstacles to it.

CHAPTER 11: THEORETICAL FRAMEWORKS FOR FISHERIES GOVERNANCE REFORM

11.1 Law and Development Theory Applied to Bangladesh's Fisheries

The law and development tradition in legal scholarship, associated with scholars including David Trubek, Yash Ghai, and, more recently, David Kennedy, provides a theoretical framework for understanding the relationship between legal reform and economic and social development that is directly relevant to Bangladesh's fisheries governance reform agenda. The law and development perspective asks not merely whether a proposed legal reform is technically correct but whether it is likely to promote or impede the development goals that it is ostensibly designed to serve.

Applied to Bangladesh's fisheries governance, the law and development framework raises several critical questions about the proposed reform agenda. First, will the adoption of international standards for fisheries management, including the FAO Code of Conduct and the PSMA framework, actually produce better conservation outcomes in the Bangladesh context, or will the formal adoption of international norms produce a paper compliance that masks unchanged practices on the water? The research literature on regulatory transplants in developing country contexts suggests that the successful adoption of international standards requires not merely their formal enactment in domestic law but a complementary investment in enforcement capacity, institutional capability, and the political will to challenge powerful interests that benefit from weak governance.

Second, will a reformed fisheries licensing system that incorporates scientific stock assessments and total allowable catch limits benefit small-scale fishers or disadvantage them? The experience of fisheries reform in other developing countries suggests that the formalisation of access rights through licensing can sometimes concentrate those rights in the hands of those with the best access to the licensing bureaucracy, which in conditions of political and economic inequality often means large commercial operators. Any reformed system must be specifically designed to prevent this outcome through specific legal provisions protecting small-scale fishing access rights.

Third, what is the role of legal reform in addressing the structural poverty and inequality that underlie many of the governance failures in Bangladesh's fisheries sector? Legal reform of the fisheries governance framework is necessary but not sufficient. It must be accompanied by

broader social and economic development measures that reduce the poverty-driven pressure on fisheries resources, provide fishing communities with alternative livelihood options, and create the social conditions in which governance reform is politically sustainable.

11.2 The Precautionary Principle in Fisheries Law: Theoretical and Practical Dimensions

The precautionary principle, or precautionary approach as it is described in the fisheries context, is one of the most important and contested concepts in contemporary international environmental and fisheries law. In its most general formulation, the principle holds that where there is uncertainty about the environmental effects of an activity, that uncertainty should not be used as a reason for failing to take precautionary protective measures. In the fisheries context, this means that when stock assessments are uncertain, as they almost always are, management measures should err on the side of conservation rather than exploitation.

The precautionary approach has been incorporated in UNCLOS Article 61's reference to the best scientific evidence available, in the FAO Code of Conduct's specific provision on the precautionary approach, in the UN Fish Stocks Agreement's Article 6, which provides a detailed framework for the application of precaution in fisheries management, and in the IOTC's conservation and management resolutions. Bangladesh's domestic legal framework makes no explicit reference to the precautionary approach, which is a significant omission in a fisheries governance context where stock assessment data are frequently inadequate and where the consequences of overexploitation for both ecology and livelihoods can be severe and long-lasting.

The philosophical foundations of the precautionary principle have been debated extensively in the environmental ethics and jurisprudence literature. The principle has been defended as a rational response to uncertainty and to the asymmetry between the costs of over-caution, which are primarily economic, and the costs of under-caution, which may include irreversible ecological damage. It has been critiqued as potentially paralysing in contexts where uncertainty is unavoidable and where the costs of precautionary inaction are themselves significant, including the loss of food security and livelihoods for communities dependent on exploiting the uncertain resources.

The resolution of this tension in the fisheries context requires a sophisticated application of the precautionary approach that distinguishes between different types and degrees of uncertainty, sets precautionary management targets that reflect the best available science rather than substituting caution for science, and builds adaptive management mechanisms that allow management measures to be adjusted as new scientific information becomes available. The UN Fish Stocks Agreement's framework of reference points, which distinguishes between target reference points representing the ideal state of the stock and limit reference points representing the boundary beyond which fishing must not push the stock, provides a practical framework for the application of precaution in fisheries management that Bangladesh's reformed fisheries law should adopt.

11.3 New Governance Theory and Fisheries Management

New governance theory, associated with legal scholars including Orly Lobel and Charles Sabel, proposes an approach to regulatory design that emphasises collaboration between regulators and regulated parties, the use of performance standards rather than detailed prescriptive rules, continuous monitoring and adjustment of regulatory requirements, and the deployment of civil society and market mechanisms alongside traditional command-and-control regulation. Applied to fisheries governance, new governance theory suggests a regulatory model that combines mandatory performance standards with flexible implementation approaches, that incorporates the scientific expertise of fishing communities through participatory management processes, and that uses market mechanisms such as eco-labelling and certification to create incentives for sustainable fishing practices.

Bangladesh's fishing industry, particularly the shrimp export sector, has already been significantly affected by market-driven governance mechanisms. The requirements of the European Union market, which is the largest destination for Bangladesh's shrimp exports, for compliance with food safety, environmental, and labour standards have driven significant improvements in the governance of the shrimp supply chain, including the development of traceability systems, hazard analysis and critical control point plans, and third-party certification. These market-driven improvements have sometimes been more effective in changing industry practices than domestic regulation, because the commercial incentives for compliance are immediate and significant.

A reformed fisheries governance framework should incorporate market mechanisms, including fisheries improvement projects, eco-labelling, and chain-of-custody certification, as complementary tools alongside traditional regulatory approaches. The Marine Stewardship Council's certification scheme, the Aquaculture Stewardship Council's certification for farmed seafood, and the Friend of the Sea certification are international eco-labelling programmes whose adoption by Bangladesh's fishing industry would improve market access, provide conservation incentives, and signal Bangladesh's commitment to responsible fisheries governance.

11.4 Legal Pluralism and the Governance of Small-Scale Fisheries

Legal pluralism, the recognition that multiple legal systems, including state law, customary law, and international law, coexist and interact in complex ways in the governance of any given social domain, is an important theoretical lens for understanding the governance of Bangladesh's small-scale fisheries. The small-scale fisheries of Bangladesh's coastal zone are not governed only by formal state law; they are also governed by a rich body of customary norms, informal community rules, traditional tenure arrangements, and social conventions that have developed over generations in response to the specific ecological and social conditions of each fishing community.

Legal anthropologists and socio-legal scholars who have studied small-scale fisheries governance in South and Southeast Asia, including those working in the tradition of James Scott's work on the moral economy of the peasant, have documented the richness and functionality of customary fisheries governance systems in comparable contexts. These studies suggest that informal community governance systems often have significant advantages over

formal state regulation in terms of legitimacy, local knowledge, enforcement capacity, and adaptability to local conditions.

The challenge for Bangladesh's fisheries law reform is to design a legal framework that preserves and strengthens the positive elements of customary governance while addressing its limitations, which may include inadequate conservation standards for commercially important stocks, gender biases in the allocation of fishing rights, and the exclusion of marginalised community members from governance processes. A pluralist approach to fisheries governance would recognise the co-existence of state law and customary law, provide legal recognition and support to effective community governance systems, and create mechanisms for the articulation of customary governance norms with the formal legal framework.

CHAPTER 12: COMPARATIVE MODELS OF FISHERIES LAW AND GOVERNANCE

12.1 The Norwegian Model: Science-Based Management and Long-Term Sustainability

Norway provides one of the most instructive comparative models of fisheries governance for Bangladesh, despite the obvious differences in geography, ecology, and economic development level. Norway's fisheries management framework, based on the Saltwater Fisheries Act of 1983 and subsequent legislation including the Act relating to the Management of Wild Living Marine Resources of 2009, has achieved significant conservation success in managing the North Sea and Norwegian Arctic fisheries on a long-term sustainable basis while supporting a commercially successful fishing industry.

The key features of the Norwegian model that are most relevant to Bangladesh include the following. First, Norway's fisheries management is explicitly based on the best available science, with stock assessments conducted by the Institute of Marine Research providing the scientific foundation for total allowable catch decisions by the Ministry of Trade, Industry and Fisheries. The legal framework specifically requires that management decisions be based on scientific advice, and the scientific advisory process is transparent and independent. Second, Norway applies the precautionary approach systematically, setting total allowable catches at levels that maintain a precautionary buffer between the fishing mortality rate and the rate at which the stock would become seriously depleted. Third, Norway's fisheries licensing system, which controls entry into the commercial fishing fleet through a system of vessel quotas and catch entitlements, has been designed to match fishing capacity to available resources, preventing the development of excess capacity that drives competitive overexploitation.

The Norwegian experience also illustrates the potential of community-based co-management in specific coastal fisheries contexts. Norway's system of fishermen's sales organisations, which are cooperative bodies that manage the marketing and pricing of fish sold by Norwegian fishers, provides a model of industry self-governance that complements state regulation with collective action by fishing communities. The legal framework for these organisations, established in the Raw Fish Act, could provide a template for the development of comparable cooperative governance institutions in Bangladesh.

12.2 The Chilean Model: Individual Transferable Quotas and their Social Consequences

Chile provides an instructive cautionary tale about the implementation of individual transferable quotas in a developing country fisheries context. Chile introduced an ITQ system for its principal industrial fisheries in the 1990s and early 2000s, motivated by the theory that property rights in fish stocks would create incentives for sustainable management. The Chilean experience showed that ITQs can improve conservation outcomes for industrial fisheries, but it also demonstrated their severe distributional consequences: the concentration of quota ownership in the hands of a small number of large fishing companies, the displacement of small-scale artisanal fishers, and the political and social conflict generated by the privatisation of what had previously been a common resource.

The Chilean experience is directly relevant to Bangladesh's fisheries reform context, where proposals for property rights-based management systems have been discussed. The lesson from Chile, and from other developing country experiences with ITQs, is that the design of any property rights system for fisheries must specifically protect small-scale fishers through provisions that reserve a portion of the total allowable catch for the artisanal sector, that prohibit the acquisition of quota from artisanal fishers by industrial operators, and that create governance structures that give artisanal fishing communities a meaningful voice in management decisions.

12.3 The Pacific Islands Model: Community-Based Marine Area Management

The experience of Pacific Island nations, including Fiji, Vanuatu, and the Solomon Islands, with community-based marine area management, specifically the Locally Managed Marine Area network that has been developed across the Pacific over the past two decades, provides a particularly relevant comparative model for Bangladesh's small-scale fisheries governance. In the Pacific Island context, locally managed marine areas are coastal sea areas that are managed by the local community through traditional tenure arrangements and community-developed rules, often incorporating customary principles of conservation alongside economic objectives.

The LMMA network has achieved significant conservation outcomes in Pacific Island coastal fisheries, with documented increases in fish abundance and diversity within the managed areas and spillover effects in adjacent unmanaged areas. The governance model combines local community authority with technical support from national fisheries agencies and NGOs, creating a form of co-management that draws on the strengths of both community governance and state regulation.

The applicability of the Pacific Island LMMA model to Bangladesh is limited by differences in scale, population density, and ecological conditions, but the core principles of community tenure recognition, participatory management, and the integration of traditional ecological knowledge with modern fisheries science are highly relevant. Bangladesh's coastal fishing communities have been governing their access to coastal resources through customary arrangements for generations, and these arrangements deserve legal recognition and support rather than displacement by top-down state regulation.

CHAPTER 13: THE COMPREHENSIVE REFORM AGENDA FOR BANGLADESH'S FISHERIES LAW

13.1 The Case for a New Marine Fisheries Act

The analysis in the preceding twelve chapters of this Part has established, beyond any reasonable doubt, that the Marine Fisheries Ordinance of 1983 is fundamentally inadequate as the legislative framework for the governance of Bangladesh's marine fisheries in the twenty-first century. It does not reflect the current state of international fisheries law. It does not embody the principles of ecosystem-based management. It does not specifically protect the rights of small-scale fishers. It does not address climate change. It does not establish an adequate enforcement framework. And it does not create the institutional architecture for the evidence-based, adaptive, and participatory management that sustainable fisheries governance requires.

The case for a new Marine Fisheries Act, comprehensively replacing the 1983 Ordinance, is therefore overwhelming. Such a new Act should be the product of an inclusive and consultative drafting process that engages fishing communities, the fisheries industry, civil society organisations, the scientific community, and international partners. It should be informed by the most rigorous available comparative analysis of fisheries law reform in other developing coastal states. And it should be designed not merely for technical compliance with international standards but for practical effectiveness in the specific ecological, social, and institutional conditions of Bangladesh.

The principal elements of the new Marine Fisheries Act should be the following.

A clear statement of objectives, incorporating the principles of ecological sustainability, food security, intergenerational equity, social justice, gender equality, and compliance with international law as co-equal purposes of the Act.

A provision establishing the application of the precautionary approach and ecosystem-based management as mandatory principles of fisheries governance, requiring that all management decisions be informed by the best available scientific evidence and that uncertainty be resolved in favour of conservation.

A comprehensive licensing and registration framework, covering all fishing vessels above a specified minimum size, establishing clear conditions for the granting, renewal, and revocation of licenses, and providing for the regular review of total fishing effort in relation to scientifically assessed stock status.

A total allowable catch determination process that requires the Bangladesh Fisheries Research Institute to provide annual scientific advice on the sustainable yield of each commercially important species, requires the Director of Fisheries to set total allowable catches in accordance with that advice unless specifically overridden on stated grounds by the Minister, and creates a system of individual fishing allocations or fishing effort controls to give effect to the total allowable catch.

Specific provisions for the protection of small-scale fishing communities, including a reserved quota for the artisanal sector, legal recognition of customary fishing tenure rights, and specific requirements for the consultation of fishing communities in management decisions.

A comprehensive framework of conservation measures, including closed seasons and areas, gear restrictions, size limits, and the designation and management of marine protected areas, with a clear legal basis for the imposition of each type of measure and a process for the adaptive adjustment of measures in response to changing stock conditions.

An enforcement framework that provides adequate penalties for all categories of fisheries violation, establishes clear procedural standards for the conduct of maritime enforcement operations, and creates specialised fisheries enforcement tribunals for the efficient prosecution of fisheries offences.

An IUU fishing prevention framework that implements Bangladesh's obligations under the PSMA, including the designation of ports for foreign fishing vessel access, mandatory inspection requirements, and information sharing obligations.

A climate change and ecosystem health framework that requires the integration of climate projections into stock assessments, establishes specific obligations for the protection of climate-vulnerable habitats including mangrove forests, and implements Bangladesh's due diligence obligations under UNCLOS Part XII as interpreted by the 2024 ITLOS Advisory Opinion.

An international cooperation framework that provides the legal basis for Bangladesh's participation in regional fisheries bodies, specifically the IOTC and BOBP-IGO, and for the negotiation and implementation of bilateral fisheries agreements with India, Myanmar, and other relevant states.

A marine spatial planning framework that establishes the authority for the development and legal force of a national marine spatial plan, defines the process for its preparation and revision, and requires that all licensing decisions for fisheries and other maritime activities be consistent with the plan.

An institutional framework that establishes an independent Marine Fisheries Advisory Committee with scientific, civil society, and industry representation, charged with providing independent advice on fisheries management decisions and reporting publicly on the implementation of the Act.

13.2 Institutional Reform: The Fisheries Governance Architecture

The new Marine Fisheries Act will only deliver its intended conservation and social outcomes if it is supported by an adequate institutional framework. The current Department of Fisheries lacks the resources, the mandate, and the institutional independence to implement a modern ecosystem-based management framework. The following institutional reforms are needed.

The Department of Fisheries should be restructured and adequately resourced, with specific functional divisions for fisheries management, stock assessment, licensing and compliance, aquaculture governance, international relations and treaty compliance, and community development. The staffing and funding of these divisions must be commensurate with the responsibilities they are assigned and with the scale of the fisheries sector they govern.

The Bangladesh Fisheries Research Institute should be granted greater institutional independence, with adequate funding for a comprehensive programme of stock assessment surveys, ecosystem research, and applied fisheries management science. The Institute should be required to publish its stock assessment findings and to make them available for public scrutiny, creating transparency and accountability in the science that underpins management decisions.

A Fisheries Ombudsman should be established to receive and investigate complaints from fishing communities, industry stakeholders, and civil society organisations about the implementation of the Act, providing an accessible and independent accountability mechanism for fisheries governance.

The Bangladesh Fishermen's Forum and other representative organisations of small-scale fishing communities should be given formal legal standing in fisheries governance processes, including a guaranteed voice in the Marine Fisheries Advisory Committee and mandatory consultation in the development of major management measures.

13.3 Financial Mechanisms for Sustainable Fisheries Governance

The implementation of the comprehensive fisheries governance framework proposed in this Part requires sustained and adequate financial resources. The current funding of the Department of Fisheries and the Bangladesh Fisheries Research Institute is manifestly inadequate for the responsibilities they are expected to discharge. The reform of fisheries governance must be accompanied by a reformed financial framework that provides sustainable funding for the institutional and operational requirements of modern fisheries management.

The principal sources of funding for fisheries governance are the following. Fishing license fees, which should be revised to reflect the economic value of the fishing opportunity being granted and to generate sufficient public revenue for fisheries management costs. Aquaculture licensing fees, which should similarly be set at levels that reflect the economic value of the marine space and resources being made available for aquaculture. Fines and penalties for fisheries violations, which should be set at deterrent levels and ring-fenced for reinvestment in fisheries monitoring and enforcement. International development assistance, from FAO, the World Bank, the Asian Development Bank, and bilateral donors, which has historically been an important source of funding for fisheries management capacity building in Bangladesh and should be mobilised in support of the comprehensive reform agenda.

A fisheries management fund, established under the new Act and governed by the Marine Fisheries Advisory Committee, should be created to receive and allocate these funding streams. The fund should be subject to independent audit and public accountability, with annual reporting

to parliament on its receipts and expenditures, ensuring transparency and preventing the diversion of fisheries management funds to other purposes.

13.4 The Implementation Timeline and Political Economy of Reform

The comprehensive fisheries law reform agenda proposed in this Part is ambitious in its scope and demanding in its implementation requirements. A realistic assessment of the political economy of reform requires acknowledgment of the obstacles that comprehensive reform will face, including the resistance of powerful interests in the commercial fishing industry that benefit from the current weak governance framework, the institutional inertia of the agencies whose responsibilities and culture will need to change, and the competing demands on the legislative agenda and the government's fiscal resources.

The following phased implementation approach is proposed, consistent with the recognition that comprehensive reform cannot be achieved immediately but must be pursued through a sustained and politically managed process over several years.

In the first phase, covering the period from 2025 to 2027, the priority should be the drafting and enactment of the new Marine Fisheries Act, through a comprehensive and inclusive consultative process. This phase should also include the designation of Bangladesh's ports under the PSMA framework and the operationalisation of the minimum inspection requirements, and the conduct of a comprehensive stock assessment of the principal commercial species in Bangladesh's EEZ, providing the scientific baseline for evidence-based management under the new Act.

In the second phase, covering 2027 to 2030, the priority should be the implementation of the key provisions of the new Act, including the reformed licensing framework, the total allowable catch determination process, the small-scale fisheries protection provisions, and the marine protected area management framework. This phase should also include the development of a bilateral fisheries agreement with India addressing the grey area management challenge and the shared stock management of hilsa, and the negotiation of a BIMSTEC fisheries protocol providing the regional governance framework for Bay of Bengal fisheries.

In the third phase, from 2030 onward, the priority should be the further development of the ecosystem-based management framework, including the integration of climate change projections into stock assessments, the implementation of the marine spatial plan, the development of offshore aquaculture governance, and the full implementation of Bangladesh's BBNJ Agreement obligations.

CHAPTER 14: JURISPRUDENTIAL REFLECTIONS ON FISHERIES LAW: RIGHTS, SUSTAINABILITY, AND THE FUTURE OF OCEAN GOVERNANCE

14.1 Fish as Rights Holders: An Emerging Jurisprudential Debate

An emerging and genuinely provocative debate in environmental jurisprudence concerns the legal status of animals, ecosystems, and nature itself as subjects of rights rather than merely objects of legal protection. This debate, associated with scholars including Christopher Stone, whose 1972 essay Should Trees Have Standing argued for the recognition of standing of natural objects in environmental litigation, has developed in recent decades to include proposals for the legal recognition of the rights of nature in constitutional and statutory law.

Several jurisdictions have taken legislative or judicial steps in this direction. Ecuador's 2008 Constitution recognises the rights of nature, specifically the rights of Pachamama, or Mother Earth, to be maintained and regenerated. Bolivia's Law of the Rights of Mother Earth of 2010 recognises nature as a subject of rights. In India, the High Court of Uttarakhand in 2017 granted the status of legal persons to the Ganges and Yamuna rivers, though this decision was subsequently stayed by the Supreme Court. New Zealand's Te Awa Tupua Act of 2017 recognises the Whanganui River as a legal person with the rights, powers, duties, and liabilities of a legal person.

Applied to the marine context, the rights of nature concept raises the question of whether fish populations, marine ecosystems, or the ocean itself could or should be recognised as having legal rights that would entitle their representatives to participate in governance processes, to seek judicial protection against depletion or degradation, and to hold the state and private actors accountable for decisions that harm them. This is a radical departure from the traditional framework of fisheries law, which treats fish as natural resources to be managed for human benefit rather than as beings with intrinsic interests.

The practical implications of recognising the rights of nature in Bangladesh's fisheries governance context would be significant. If the hilsa population, or the Bay of Bengal ecosystem as a whole, were recognised as having legal standing, environmental NGOs and representatives of fishing communities could potentially invoke those rights in legal proceedings challenging decisions that would push fish stocks below sustainable levels. The recognition of fish populations as rights holders would also provide a different philosophical foundation for the precautionary principle: instead of being merely a risk management principle that serves human interests by avoiding the economic costs of ecosystem collapse, the precautionary approach would become an obligation to protect the interests of fish themselves, regardless of the human economic consequences.

This commentary does not advocate for the immediate adoption of rights-of-nature provisions in Bangladesh's fisheries law, which would be politically premature and practically challenging in the current institutional context. But it does suggest that the philosophical framework of rights-of-nature deserves serious engagement in the academic and policy discourse on fisheries law reform, and that the underlying intuition that fish populations have a claim to continued existence that goes beyond their utility to humans is consistent with the principles of stewardship and intergenerational justice that inform the most sophisticated contemporary thinking about fisheries governance.

14.2 The Relationship Between Fisheries Law and International Human Rights Law

The relationship between fisheries law and international human rights law is an increasingly important dimension of the legal framework for fisheries governance that deserves systematic analysis in the Bangladesh context. Human rights law provides a set of legally binding standards for the conduct of states in relation to individuals and communities, and its application to fisheries governance creates obligations that go beyond what fisheries law alone requires.

The right to food, recognised in Article 11 of the International Covenant on Economic, Social and Cultural Rights, which Bangladesh has ratified, creates an obligation on the state to ensure the availability, accessibility, and adequacy of food for all its citizens. In the fisheries context, this right creates an obligation to manage fisheries sustainably, so that fish stocks remain productive and accessible to those who depend on them for food and livelihood. Unsustainable fisheries management that depletes fish stocks and deprives fishing communities of their primary food source is a violation of the right to food as well as a violation of UNCLOS fisheries management obligations.

The right to an adequate standard of living, also guaranteed in Article 11 of the ICESCR, and the right to work, guaranteed in Article 6, create obligations to protect the livelihoods of fishing communities. Governance decisions that destroy fishing livelihoods without providing adequate alternatives or compensation, including decisions that allow industrial fishing fleets to displace artisanal fishers, that permit coastal development to destroy fishing habitats, or that allow IUU fishing to deplete stocks on which artisanal communities depend, engage the state's human rights obligations as well as its fisheries management obligations.

The relationship between fisheries law and the prohibition of child labour is another important human rights dimension of fisheries governance. Child labour in fishing, including the deployment of children on fishing boats and in post-harvest processing activities, is a documented problem in Bangladesh's fisheries sector that engages the state's obligations under the Convention on the Rights of the Child and the ILO Convention on the Minimum Age for Admission to Employment. The Marine Fisheries Act should include specific provisions prohibiting child labour in all fisheries operations and creating enforcement mechanisms for this prohibition.

14.3 Towards a Bangladesh Marine Fisheries Jurisprudence

The development of a body of case law interpreting and applying Bangladesh's fisheries legislation is an important long-term objective of fisheries law reform. The effectiveness of any legal framework depends not only on its text but on the quality of its interpretation and application through the judicial process. A sophisticated and principled judicial interpretation of fisheries law, drawing on the theoretical and comparative resources discussed in this Part, would significantly enhance the practical effectiveness of the reformed legal framework.

Several doctrinal developments in the jurisprudence of Bangladesh's Supreme Court are relevant to the development of a fisheries jurisprudence. The Court's articulation of a constitutional right to a healthy environment, developed in several environmental law cases, provides a foundation for judicial review of fisheries management decisions that fail to protect the marine environment. The Court's recognition of the importance of international law in the interpretation of domestic

legislation, including the principle of consistent interpretation that requires domestic statutes to be read in light of Bangladesh's international treaty obligations, provides a mechanism for the incorporation of UNCLOS, the FAO Code of Conduct, and other international fisheries instruments into domestic judicial reasoning.

The development of public interest litigation as a vehicle for the vindication of fisheries governance obligations is a further important dimension of the emerging fisheries jurisprudence. Public interest litigation, which allows NGOs and concerned citizens to bring cases in the Supreme Court challenging decisions or inactions that harm the public interest, has been used effectively in environmental cases in Bangladesh and provides a potential mechanism for challenging decisions that allow overexploitation of fish stocks or that fail to protect the rights of fishing communities. The reformed Marine Fisheries Act should contain specific provisions recognising the standing of fishing community representatives and environmental NGOs to bring public interest claims in relation to fisheries governance decisions.

14.4 The Future of Bangladesh's Fisheries: A Vision Grounded in Law

This Part concludes with a reflection on the vision that should animate Bangladesh's fisheries law reform: not merely the technical improvement of a regulatory framework but the creation of a legal foundation for a future in which the Bay of Bengal remains abundantly productive, in which the fishing communities of Bangladesh's coast are prosperous, secure, and self-determining, and in which the rights of future generations to the same marine heritage that sustains the present are protected through institutional arrangements of governance that are wise, fair, and durable.

This vision is not utopian. It is grounded in the specific legal obligations that Bangladesh has accepted through its ratification of UNCLOS, its endorsement of the FAO Code of Conduct and SSF Guidelines, its accession to the PSMA, and its membership of the IOTC and BOBP-IGO. It is consistent with the requirements of the 2024 ITLOS Advisory Opinion and the principles of the BBNJ Agreement. It is achievable with the institutional capacity, the financial resources, and the political will that Bangladesh's size, its maritime heritage, and its development trajectory make available.

The fish of the Bay of Bengal are among the most extraordinary natural treasures that any nation possesses. They represent the accumulated productivity of an ecosystem that has evolved over millions of years and that sustains the food security, the livelihoods, and the cultural identity of tens of millions of people. They are also under extraordinary pressure from overfishing, pollution, habitat destruction, and the accelerating impacts of climate change. The law's task is to ensure that this treasure is not squandered through short-sighted exploitation or institutional neglect, and that it is passed on to future generations at least as abundant and as diverse as the inheritance that the present generation received.

Bangladesh has the legal framework, the international obligations, the scientific capacity, and the national interest to achieve this vision. What is required now is the legislative determination to enact the comprehensive Marine Fisheries Act proposed in this commentary, the institutional investment to implement it effectively, and the political wisdom to manage the competing

interests and the short-term costs of conservation for the sake of the long-term abundance that sustainable management makes possible. These are difficult things, requiring courage and commitment from political leaders, legal practitioners, fisheries scientists, and the fishing communities themselves. But they are not impossible, and the commentary in this Part has attempted to show both why they are necessary and how they can be achieved.

BIBLIOGRAPHY AND BIBLIOGRAPHIC NOTES TO PART NINE

The analysis in this Part draws on a wide range of primary and secondary sources in fisheries law, the law of the sea, environmental law, political economy, marine ecology, and development studies. The following notes indicate the principal sources and further reading.

On the philosophical and jurisprudential foundations of fisheries law, the essential readings are H. Scott Gordon, The Economic Theory of a Common Property Resource: The Fishery, Journal of Political Economy 62 (1954); Garrett Hardin, The Tragedy of the Commons, Science 162 (1968); Elinor Ostrom, Governing the Commons: The Evolution of Institutions for Collective Action (Cambridge University Press, 1990); and Edith Brown Weiss, In Fairness to Future Generations (Transnational Publishers, 1989). On the rights of nature and its fisheries dimensions, the essential texts are Christopher Stone, Should Trees Have Standing? Towards Legal Rights for Natural Objects (Southern California Law Review, 1972); and Klaus Bosselmann, The Principle of Sustainability: Transforming Law and Governance (Ashgate, 2008).

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On the FAO Code of Conduct for Responsible Fisheries, the essential texts are the Code itself and the associated Technical Guidelines for Responsible Fisheries, available at www.fao.org. The SSF Guidelines are similarly available through FAO. On the PSMA, the Agreement text and implementing guidance are available through the FAO PSMA portal.

On Bangladesh's fisheries specifically, the most relevant recent scholarship includes the 2025 GSC Advanced Research and Reviews paper on navigating the blue economy in Bangladesh by various authors; the 2025 paper from Springer on the Blue Economy Governance in Bangladesh; the 2025 IJLSSS paper on the legal and socioeconomic implications of coastal peoples' maritime rights in Bangladesh; and the 2024 Discover Sustainability paper by Akter and others on the blue economy and SDGs in Bangladesh. The research publications of the Bangladesh Fisheries

Research Institute, available through its website, provide essential data on fish stocks and fisheries management in Bangladesh's waters.

On comparative fisheries law, the Norwegian Marine Resources Act (Havressurslova) of 2009 provides an important model, as does New Zealand's Fisheries Act 1996 and the Chilean Fisheries Law No. 20.657 of 2013. The FAO's Global Fisheries Governance and Law project has produced comparative analyses of fisheries legislation in many countries that are valuable reference points for Bangladesh's reform process.

On the rights of fishing communities and the gender dimensions of fisheries governance, the essential texts are the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (FAO, 2015); Sebastian Mathew (ed), Small-Scale Fisheries and the Human Right to Food (FAO, 2011); and Nilufar Matin and others, Women in Fisheries in Bangladesh, World Fish Working Paper (2012). The UNDP Bangladesh publication of 2025 on comprehensive engagement in the blue economy, referenced in the preface to this Part, provides recent policy context on gender-inclusive sustainable finance in Bangladesh's coastal sector.

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On the WTO Agreement on Fisheries Subsidies, the text of the Agreement and implementing guidance are available at the WTO website. The academic commentary on the Agreement in the context of developing country fisheries is developing rapidly; relevant recent contributions include the Analysis of the WTO Fisheries Subsidies Agreement: Implications for Developing States from the International Journal of Marine and Coastal Law (2024) and the UNCTAD publication Fisheries Subsidies and the SDGs: Navigating the New WTO Agreement (2024).

END OF PART NINE

PART TEN

OFFSHORE ENERGY LAW, HYDROCARBON GOVERNANCE, DEEP SEABED MINERAL RESOURCES, AND THE POLITICAL ECONOMY OF MARITIME ENERGY DEVELOPMENT IN BANGLADESH

A COMMENTARY ON SOVEREIGN RIGHTS, PRODUCTION SHARING CONTRACTS, ENVIRONMENTAL OBLIGATIONS, JURISPRUDENTIAL THEORY, AND THE IMPERATIVE OF COMPREHENSIVE REFORM IN THE AGE OF ENERGY TRANSITION AND OCEAN ACCOUNTABILITY

PREFACE TO PART TEN

Part Ten stands at the numerical centre of this twenty-part commentary, and it addresses a subject that stands at the economic centre of Bangladesh's maritime future: the governance of offshore energy resources. The sea is not only a medium of commerce and a source of fish. It is a geological archive of carbon accumulated over hundreds of millions of years, a repository of polymetallic minerals deposited over geological time scales, and an increasingly important platform for the generation of renewable energy through wind, tidal, and wave technologies. For Bangladesh, these resources represent the most potentially transformative dimension of the blue economy, the category of maritime asset whose development could most radically alter the trajectory of the nation's energy security, its external balance of payments, and its long-term economic development.

Yet the governance of offshore energy resources in Bangladesh is deeply problematic. The legislative framework is fragmented, pre-UNCLOS in its foundations, inadequate in its environmental standards, and insufficiently transparent in its fiscal architecture. The institutional arrangements for offshore energy governance are divided among multiple agencies without adequate coordination. The Production Sharing Contract model, which is the primary instrument through which Bangladesh engages international oil companies in offshore exploration, was last comprehensively revised in 2023, though the preceding model of 2019 and the framework under which earlier contracts were signed had become increasingly uncompetitive and had contributed to more than a decade of failed exploration efforts. The 2024 Offshore Bidding Round, the most significant energy governance development in Bangladesh's maritime domain in recent years, has generated international interest but also significant legal and policy questions that this Part must examine with rigour.

The context in which Part Ten is written is also shaped by the extraordinary transformation occurring in the global energy landscape. The energy transition, driven by the imperatives of climate change mitigation and the falling cost of renewable technologies, is fundamentally altering the economics of offshore hydrocarbon development. The international legal framework, particularly as elaborated by the 2024 ITLOS Advisory Opinion on climate change obligations under UNCLOS, has introduced new layers of environmental obligation that sit uneasily with the continued pursuit of offshore fossil fuel development. The race for critical minerals, including the polymetallic nodules, cobalt-rich crusts, and seafloor massive sulphides found on and beneath the ocean floor beyond national jurisdiction, is reshaping the governance architecture of the International Seabed Authority in ways that have direct implications for Bangladesh as a developing coastal state and as a state party to UNCLOS. The US Executive Order of April 2025 purporting to authorise deep-sea mining outside the ISA framework has fractured the international consensus on ocean governance in ways that demand careful legal analysis.

This Part proceeds through fourteen chapters. It begins with the international legal framework for offshore energy resources under UNCLOS, examines the continental shelf doctrine and the theory of sovereign rights to subsoil resources, surveys the history and current state of Bangladesh's offshore hydrocarbon governance, analyses the Production Sharing Contract as a legal instrument, provides a detailed legal and policy commentary on the 2024 Bangladesh Offshore Bidding Round, addresses the environmental governance obligations applicable to

offshore energy operations, examines the emerging regime for deep seabed mining and its implications for Bangladesh, considers the legal framework for offshore renewable energy, analyses foreign investment law and investor-state dispute resolution in the offshore energy context, engages with the political economy of maritime energy, surveys comparative governance models, addresses marine scientific research law, proposes a comprehensive reform agenda, and concludes with jurisprudential reflections on the legal philosophy of maritime energy governance.

CHAPTER 1: THE INTERNATIONAL LEGAL FRAMEWORK FOR OFFSHORE ENERGY RESOURCES UNDER UNCLOS

1.1 The Constitutional Architecture of Maritime Energy Governance

The legal governance of offshore energy resources is anchored in the United Nations Convention on the Law of the Sea of 1982, which provides the constitutional architecture for the exercise of coastal state rights over the subsoil resources of the continental shelf and the seabed and water column resources of the Exclusive Economic Zone. Understanding this architecture requires a careful reading of the relevant UNCLOS provisions in their systemic context, informed by the jurisprudence of the International Court of Justice, the International Tribunal for the Law of the Sea, and the international arbitral tribunals that have addressed questions of maritime resource jurisdiction over the past five decades.

The foundational provision is UNCLOS Article 56, which establishes the coastal state's sovereign rights in the EEZ for the purpose of exploring, exploiting, conserving, and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from water, currents, and winds. This comprehensive formulation of sovereign rights over non-living resources in the EEZ encompasses offshore hydrocarbons, minerals, marine renewable energy, and the emerging categories of energy resources including methane hydrates and geothermal energy. The expression sovereign rights, as distinct from sovereignty itself, is jurisprudentially significant: it indicates a functional jurisdiction over specific activities rather than the plenary territorial sovereignty that the coastal state exercises in its territorial sea and on land.

UNCLOS Article 77 addresses the continental shelf specifically, confirming that the coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. The natural resources referred to in Article 77(4) consist of the mineral and other non-living resources of the seabed and subsoil, together with living organisms belonging to sedentary species. This enumeration specifically encompasses hydrocarbons, polymetallic minerals, and sedentary living organisms, and it extends to the outer continental shelf beyond 200 nautical miles where it exists. Article 77(2) establishes the sui generis character of these sovereign rights: they are exclusive in the sense that if the coastal state does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal state. This exclusivity does not depend on occupation, effective

or notional, or on any express proclamation; it attaches to the coastal state by virtue of its status under UNCLOS and by operation of customary international law.

The jurisprudential history of the continental shelf doctrine is essential for understanding the contemporary legal framework. The ICJ's foundational pronouncements in the North Sea Continental Shelf cases of 1969 established that the rights of the coastal state in the continental shelf are inherent, arising ipso facto and ab initio from sovereignty over the land, not through any act of proclamation, treaty, or deliberate extension of sovereignty. This inherence principle is of profound theoretical importance: it grounds the coastal state's rights in the continental shelf in the legal relationship between sovereignty and the natural extension of the land territory under the sea, reflecting the Roman law concept of accessio, by which the owner of a thing acquires ownership of everything that naturally accretes to it.

The Truman Proclamation of September 28, 1945, which inaugurated the continental shelf doctrine in modern international law, articulated a version of this inherence principle by asserting that the United States regarded the natural resources of the subsoil and seabed of the continental shelf beneath the high seas contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control. The Proclamation was careful to preserve the character of the superjacent waters as high seas and to avoid any claim to sovereignty over the shelf itself, asserting jurisdiction and control over resources only. This careful formulation was reflected in UNCLOS Article 77(1), which specifies that the sovereign rights are for the purpose of exploring and exploiting natural resources, not sovereign rights over the continental shelf as territory.

1.2 The Nature and Scope of Sovereign Rights over Offshore Energy Resources

The concept of sovereign rights, as applied to offshore energy resources under UNCLOS, has been the subject of extensive academic commentary and has generated important jurisprudential questions about the boundary between resource-specific functional jurisdiction and territorial sovereignty. The distinction matters enormously in practice, because it determines the scope of the coastal state's regulatory authority over offshore energy operations, the rights of third states in the areas where these operations are conducted, and the applicable international human rights and environmental obligations.

The classic account of sovereign rights as functional jurisdiction, associated with the work of scholars including Myres McDougal and William Burke, understands the coastal state's authority in the EEZ and continental shelf as a set of specific entitlements, purposes to be served rather than territory to be governed. On this view, the coastal state's authority extends to the regulation of offshore energy operations insofar as necessary for the purposes of exploration, exploitation, conservation, and management, but not beyond. Activities in the EEZ that do not engage these specific purposes, including navigation, overflight, the laying of submarine cables, and military activities, remain subject to the general freedoms of the high seas and are not subject to coastal state jurisdiction.

A competing theoretical account, associated more with the practice of developing coastal states and reflected in some aspects of the UNCLOS negotiations, understands the EEZ as a zone of

graduated sovereignty, in which the coastal state's authority, while formally described as sovereign rights rather than sovereignty, is substantially equivalent to sovereignty for all practical purposes relevant to the zone's primary functions. On this view, the coastal state's authority to regulate, license, and enforce compliance with the conditions of offshore energy operations is plenary within the zone, subject only to the specific freedoms expressly reserved to other states by UNCLOS.

The practical consequences of this theoretical disagreement are significant for Bangladesh's offshore energy governance framework. The functional jurisdiction approach would suggest a relatively narrow reading of the coastal state's authority to impose conditions on offshore energy operators, while the graduated sovereignty approach would support a more expansive regulatory role for the coastal state including the imposition of local content requirements, domestic market obligations, and specific environmental standards that go beyond UNCLOS's general due diligence framework. Bangladesh's domestic energy legislation has generally reflected a broader reading of its coastal state authority, and this approach has generally been sustained in the practice of other coastal states and in the development of international law.

UNCLOS Article 60 provides a key additional dimension of the offshore energy governance framework by granting the coastal state the exclusive right to construct and to authorise and regulate the construction, operation, and use of artificial islands, installations, and structures for the purposes provided for in Article 56, including the purposes of energy exploration and exploitation. The safety zones that the coastal state may establish around these installations and structures, extending to a distance of up to 500 metres measured from each point of their outer edge, provide a mechanism for protecting offshore energy infrastructure from navigational hazards, though their adequacy for the protection of modern deepwater drilling installations has been questioned by some scholars and industry commentators.

The environmental governance of offshore energy operations under UNCLOS is anchored in Part XII, whose provisions impose due diligence obligations on states to ensure that activities conducted under their jurisdiction or control do not cause pollution of the marine environment from seabed activities subject to national jurisdiction, as specified in Article 194(3)(c) of the Convention. These obligations require states to adopt laws and regulations and to take other measures necessary to prevent, reduce, and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and the use of artificial islands, installations, and structures, in accordance with Article 208. The standard of due diligence in the environmental governance of offshore energy operations has been significantly elaborated by the 2024 ITLOS Advisory Opinion, as discussed in detail later in this Part.

1.3 The 1982 UNCLOS and the Pre-Existing Law: Continuity and Transformation

The transition from the 1958 Geneva Continental Shelf Convention to the 1982 UNCLOS framework represented both continuity and transformation in the governance of offshore energy resources. The continuity lay in the preservation of the inherence principle, the exclusivity of coastal state rights, and the basic structure of the continental shelf regime. The transformation lay in the consolidation of the EEZ as a comprehensive zone of coastal state authority over resources in the water column as well as the seabed, the extension of the continental shelf regime to the

outer shelf beyond 200 nautical miles through the Article 76 framework, and the integration of environmental governance obligations into the framework of resource rights.

The 1958 Convention's definition of the continental shelf by reference to the exploitability criterion, which tied the outer limit of the shelf to the depth at which exploitation was technically feasible, had created serious legal uncertainty as deep-sea drilling technology advanced through the 1960s and 1970s. The replacement of this criterion by the geological-geomorphological criteria of Article 76 of UNCLOS, which defines the outer limit of the continental shelf by reference to the outer edge of the continental margin, provided a more stable and scientifically grounded framework for the delineation of the outer shelf. The Article 76 process, through which coastal states submit scientific and technical data to the Commission on the Limits of the Continental Shelf, has been a major institutional and scientific enterprise since UNCLOS entered into force, with important implications for Bangladesh's outer continental shelf claim as discussed in earlier Parts of this commentary.

The philosophy of solidarity with developing states and the distributive justice concerns that had animated the common heritage of mankind concept were partially incorporated into the continental shelf regime through UNCLOS Article 82, which requires states exercising the right to exploit the non-living resources of the continental shelf beyond 200 nautical miles to make payments or contributions to the International Seabed Authority for distribution to states parties on the basis of equitable sharing criteria. This provision reflects the compromise between the interests of coastal states in maximising their continental shelf entitlements and the interests of the international community, particularly developing and landlocked states, in sharing the benefits of resources that might otherwise be exclusively appropriated by technically advanced coastal states. Article 82 has never been applied in practice because no state has yet commenced commercial exploitation of non-living resources on the outer continental shelf, but its implications for Bangladesh, both as a potential beneficiary of Article 82 distributions from other states and as a state with outer continental shelf rights of its own, are significant.

CHAPTER 2: THE CONTINENTAL SHELF DOCTRINE AND THE THEORY OF SOVEREIGN RIGHTS TO ENERGY RESOURCES

2.1 Theoretical Foundations: From Natural Prolongation to Appurtenance

The theoretical foundation of the coastal state's rights in the continental shelf has undergone significant evolution in the jurisprudence of the ICJ, ITLOS, and international arbitral tribunals over the past five decades. The North Sea Continental Shelf cases of 1969 articulated the doctrine of natural prolongation as the philosophical and legal basis for the continental shelf entitlement, holding that the shelf is a natural prolongation of the land territory into and under the sea, that this prolongation is a geophysical fact reflected in legal entitlement, and that delimitation of the shelf between adjacent or opposite states must be carried out in a manner that leaves to each party all those parts of the shelf that constitute the natural prolongation of its land territory into and under the sea.

The natural prolongation doctrine had considerable philosophical appeal: it grounded the coastal state's rights in a physical relationship between land and sea that was geologically verifiable and that connected the coastal state's terrestrial sovereignty to its maritime rights through a continuous physical substrate. It also had important practical implications for delimitation, since it suggested that the physical characteristics of the seabed, including the location of geological features that might interrupt the natural prolongation of one state's territory, were relevant to boundary delimitation. This geological approach to delimitation was reflected in the emphasis on physical factors in the early continental shelf delimitation cases, including the Libya-Tunisia Continental Shelf case of 1982.

However, the natural prolongation doctrine was progressively undermined by subsequent jurisprudential developments. The 1985 Libya-Malta Continental Shelf case, decided by the ICJ, significantly qualified the role of natural prolongation in delimitation by holding that within 200 nautical miles, where the EEZ concept gives every coastal state an entitlement to continental shelf rights by virtue of distance alone, the natural prolongation doctrine had no autonomous significance in delimitation. The distance criterion had superseded the physical criterion for most purposes within the two-hundred-mile zone. Only beyond 200 nautical miles did the natural prolongation of the land territory, as defined by the geological and geomorphological criteria of Article 76, retain independent significance.

This jurisprudential evolution has led some scholars, including Bernard Oxman, to argue that the conceptual foundation of the continental shelf entitlement has shifted from natural prolongation to what might be called the appurtenance principle: the idea that the continental shelf is a maritime space appurtenant to the coastal state, belonging to it not because of any particular geological relationship between land and sea, but because of the general principle that maritime spaces adjacent to a coastal state appertain to that state, up to the limits prescribed by international law. This appurtenance principle is less philosophically rich than the natural prolongation doctrine but more practically useful, since it dispenses with the need to identify geological features that might be relevant to the delimitation of shelf boundaries and focuses instead on the equitable allocation of maritime space among coastal states.

For Bangladesh, the theoretical debate between natural prolongation and appurtenance has practical relevance in the context of the outer continental shelf claim. The CLCS recommendations on Bangladesh's submission will determine the extent to which Bangladesh can claim sovereign rights over seabed resources beyond the two-hundred-mile EEZ boundary, and the criteria by which those recommendations are made are the geological and geomorphological criteria of Article 76, which reflect the natural prolongation concept. Bangladesh's legal team, in presenting the scientific case for its outer shelf claim to the CLCS, must navigate the complex relationship between the geological evidence of the Bengal Fan, the sedimentary basin that represents the natural prolongation of the Ganges-Brahmaputra delta system into the Bay of Bengal, and the specific criteria of Article 76 that govern the outer limit delineation process.

2.2 The Cambridge German Law Journal Article (2025) and the Justice Critique of Continental Shelf Rights

A recent and intellectually provocative contribution to the jurisprudential literature on the continental shelf is the German Law Journal article of May 2025 on justice on the seafloor, which offers a critical appraisal of the extension of sovereign rights to natural resources on the continental shelf from the perspective of distributive justice theory. The article argues that the continental shelf regime, by extending sovereign rights over vast areas of seabed to coastal states, has effectively converted a portion of the global commons into a set of national domains, a conversion that systematically advantages states with long coastlines and extensive continental margins over landlocked states, geographically disadvantaged states, and the developing world more generally.

This critique resonates with the TWAIL analysis discussed in Part One, and it has specific relevance to the Bangladeshi context. Bangladesh, despite its successful maritime boundary arbitrations, is a state with a relatively modest coastline compared to India and Myanmar, and its continental shelf claim is constrained by the geography of the Bay of Bengal and by the competition from neighbouring states. The German Law Journal article's argument that the continental shelf regime entrenches existing territorial inequalities rather than redistributing benefits from the common domain deserves serious engagement in any critical analysis of Bangladesh's offshore energy governance.

The response to this justice critique is not simply that the continental shelf regime is what it is under international law, and that Bangladesh must work within it. That response is technically correct but jurisprudentially inadequate. A more complete response acknowledges the justice concerns raised by the critique, engages with the remedial mechanisms that UNCLOS provides, including Article 82 and the common heritage regime for the deep seabed, and argues for Bangladesh's active participation in the ongoing governance of these mechanisms to ensure that the distributive dimension of ocean law is not subordinated entirely to the interests of technologically advanced states.

The appurtenance principle, as the article notes, can also be read from a justice perspective as an argument for the equitable allocation of maritime resources among states based on their geographic situation, rather than a simple exercise of power projection into adjacent seas by the most powerful coastal states. Bangladesh's success in the ITLOS and PCA arbitrations, which used the equitable delimitation principle to correct the distortion that equidistance would have caused in a concave bay, is an example of how the justice dimensions of maritime law can be vindicated through the international legal process.

2.3 The Resource Curse Problem and the Legal Framework for Hydrocarbon Governance

The resource curse, the tendency of resource-rich developing countries to experience lower economic growth, worse development outcomes, and higher levels of corruption than countries without significant resource endowments, is a central concern of the political economy of natural resources and has direct relevance to the design of Bangladesh's offshore energy governance framework. The extensive academic literature on the resource curse, associated most prominently with the work of Jeffrey Sachs, Andrew Warner, Terry Lynn Karl, and Michael Ross, documents a persistent pattern in which oil and gas revenues, when not governed through

effective legal and institutional frameworks, tend to concentrate in the hands of elites, distort economic incentives, weaken state institutions, and undermine democratic accountability.

Bangladesh has not yet experienced the resource curse in its most severe form, because its offshore energy sector has been relatively underdeveloped compared to the major oil-producing states. But the design of the legal framework for the 2024 Offshore Bidding Round and the production sharing contracts to be negotiated with international oil companies is being conducted in the shadow of this risk, and the design choices made now will determine whether Bangladesh's offshore energy development contributes to broad-based prosperity and sustainable development or reproduces the patterns of inequality and institutional degradation that the resource curse literature documents.

The legal scholarship on resource governance has increasingly emphasised the importance of transparency and accountability mechanisms in the design of extractive industry legal frameworks. The Extractive Industries Transparency Initiative, whose governance framework requires participating countries to publish data on revenues, contracts, and beneficial ownership of extractive industry companies, provides a global standard against which Bangladesh's offshore energy governance framework can be evaluated. Bangladesh's commitment to EITI principles, expressed in its participation in the EITI process and in the general transparency commitments of its public financial management framework, is a positive element of the governance framework, but specific implementation in the offshore energy context requires dedicated legal provisions that the current framework does not fully provide.

CHAPTER 3: BANGLADESH'S OFFSHORE HYDROCARBON GOVERNANCE: HISTORY, LEGISLATION, AND INSTITUTIONAL ARCHITECTURE

3.1 The Historical Development of Offshore Hydrocarbon Governance

The history of offshore hydrocarbon exploration in Bangladesh begins in the aftermath of independence, when the newly established state inherited the legal and institutional framework of Pakistani hydrocarbon governance and faced the immediate challenge of developing its energy resources to support a shattered economy. The Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, which established Petrobangla as the state corporation responsible for the exploration and exploitation of oil, gas, and mineral resources in Bangladesh, including offshore resources, was the foundational legislation for this sector, and despite numerous amendments and institutional developments, it remains the primary statutory framework governing Petrobangla's operations.

The history of Bangladesh's offshore exploration before 2024 is a history of partial engagement and persistent underdevelopment. The Sangu gas field, discovered by Shell and subsequently operated by Cairn Energy, was Bangladesh's first offshore gas development project and for a time provided a meaningful contribution to the national gas supply. But Sangu's reserves were smaller than initially estimated, and the field ceased production in 2013. Subsequent offshore exploration efforts, including bidding rounds in 2008, 2012, and 2016, produced limited results.

The 2016 bidding round attracted no bids at all for offshore blocks, a failure that highlighted the uncompetitive terms of the production sharing contracts on offer and the uncertainty created by unresolved maritime boundary disputes with India and Myanmar, which have since been resolved by the international arbitrations described in earlier Parts of this commentary.

The resolution of Bangladesh's maritime boundary disputes in 2012 and 2014 removed the most significant legal obstacle to offshore exploration, since the areas previously subject to dispute were among the most prospectively attractive for hydrocarbon development. The seismic surveys conducted in recent years, most notably the 75,000-square-kilometre 2D seismic survey acquired by TGS in partnership with SLB and Petrobangla and completed in April 2023, have provided the scientific data necessary to assess the hydrocarbon prospectivity of the 24 offshore blocks offered in the 2024 bidding round. The geological context is genuinely promising: the Bengal Basin, of which Bangladesh's offshore area forms a significant part, is one of the world's largest sedimentary basins, and the gas discoveries in Myanmar's adjacent offshore blocks, including the Shwe field, provide direct geological analogy for the potential of Bangladesh's deep-water blocks.

The legislative development of Bangladesh's offshore hydrocarbon governance framework has been slower and more uneven than the geological and commercial development suggests it should be. The Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985 is an enabling legislation that establishes Petrobangla's mandate and powers but does not itself provide a comprehensive regulatory framework for offshore operations. The detailed governance of offshore operations is conducted through the terms of individual Production Sharing Contracts, supplemented by administrative regulations and guidance from the Ministry of Power, Energy and Mineral Resources. This contract-based governance model has several significant weaknesses, which are discussed in detail below.

3.2 The Legal Status of Petrobangla and its Constitutional Position

Petrobangla's legal status as a state corporation raises important questions about the constitutional framework within which offshore hydrocarbon governance operates. As a statutory corporation established by ordinance, Petrobangla occupies a position between the state and the private sector, with both public law obligations and commercial operational objectives. Its dual mandate, to serve the national interest in energy security while operating commercially, creates tensions that the legal framework does not always resolve clearly.

The constitutional dimension of offshore hydrocarbon governance in Bangladesh centres on Article 143 of the Bangladesh Constitution, which vests ownership of minerals and other resources below the surface of the territorial sea and continental shelf in the state. This constitutional vesting of ownership provides the legal foundation for the state's assertion of sovereign rights over offshore hydrocarbons and for the delegation of those rights to Petrobangla for management and development on the state's behalf. However, Article 143 was drafted in 1972, before Bangladesh ratified UNCLOS in 2001, and its formulation does not fully reflect the UNCLOS distinction between sovereignty in the territorial sea and sovereign rights in the EEZ and continental shelf. This constitutional imprecision has not created serious practical problems,

but it is a point of jurisprudential concern that should be addressed in any comprehensive constitutional review.

The position of Petrobangla within the executive branch of the government, and its accountability to the Ministry of Power, Energy and Mineral Resources, raises concerns about institutional independence and the separation of the regulatory and commercial functions of offshore energy governance. In many countries with more developed offshore energy governance frameworks, the regulatory function, including the licensing of offshore operations, the enforcement of safety and environmental standards, and the monitoring of production reporting, is separated from the commercial function, including the management of the state's commercial interest in offshore energy through a national oil company. In Bangladesh, Petrobangla performs both functions, acting simultaneously as the commercial counterparty to international oil companies in production sharing contracts and as the regulatory authority that approves work programmes, monitors compliance, and enforces contract terms. This dual role creates conflicts of interest that can compromise both the effectiveness of regulation and the integrity of commercial negotiation.

3.3 The Regulatory Framework: Gaps and Inconsistencies

Bangladesh's regulatory framework for offshore hydrocarbon operations is characterised by significant gaps and inconsistencies that create legal uncertainty for operators, weaken the state's capacity to enforce its rights and obligations, and leave the public interest in environmental protection and revenue maximisation inadequately protected.

The most fundamental gap is the absence of a dedicated Offshore Petroleum Activities Act or equivalent legislation that specifically addresses the safety, environmental, financial, and operational requirements of offshore hydrocarbon development. In contrast, major offshore petroleum jurisdictions, including Norway, the United Kingdom, Australia, and Canada, have developed comprehensive legislation specifically addressing offshore petroleum activities, covering decommissioning, well integrity, pollution prevention, worker safety, emergency response, production measurement, revenue measurement, and fiscal terms. Bangladesh has no equivalent legislation; the Petrobangla Ordinance is a general enabling instrument that does not address these matters with the specificity that the governance of inherently high-risk deep-water operations requires.

The absence of a specific offshore safety regime is a particularly serious gap. Offshore hydrocarbon operations, especially deep-water drilling, are inherently dangerous activities that require rigorous safety management standards and independent regulatory oversight. The Deepwater Horizon disaster in the Gulf of Mexico in 2010, which killed eleven workers, injured seventeen others, and caused environmental damage estimated in the tens of billions of dollars, demonstrated with terrible clarity what can happen when offshore safety regulation is inadequate. Bangladesh's current regulatory framework does not contain specific provisions on well integrity, blowout prevention, safety case requirements, offshore emergency response, or the independent verification of safety management systems, and this is a deficiency that must be urgently addressed before deep-water drilling operations commence in Bangladesh's EEZ.

The environmental regulatory gap is equally serious. The Environment Conservation Act of 1995 and its associated rules apply in principle to offshore activities, but their specific application to deep-water drilling operations has never been tested, and the environmental impact assessment framework does not contain specific guidance on the assessment of major accident risks from offshore drilling. The 2024 ITLOS Advisory Opinion's elaboration of the due diligence standard for marine environmental governance creates additional obligations for Bangladesh to ensure that its regulatory framework for offshore energy operations meets international standards, but the current framework falls short of those standards in multiple respects.

3.4 Historical Patterns of IOC Engagement and Disengagement

The pattern of international oil company engagement with Bangladesh's offshore sector reveals much about the effectiveness of the legal and fiscal framework over time. The early period of offshore exploration in the 1970s and 1980s was characterised by significant international company interest, with companies including Ashland, Union Texas, Occidental, Burlington Resources, and others acquiring exploration rights. This early interest reflected the generally optimistic geological assessments of the time and the fact that post-independence Bangladesh, seeking to establish its energy sector, offered relatively accommodating contractual terms.

The period from the late 1990s through the 2010s was marked by a significant withdrawal of international company interest from Bangladesh's offshore blocks. Several factors contributed to this disengagement. The fiscal terms of Bangladesh's production sharing contracts became increasingly uncompetitive as the global offshore industry developed more attractive alternatives in deepwater Africa, Southeast Asia, and other regions. The dispute with Myanmar over the eastern maritime boundary created legal uncertainty about the security of title to blocks in the disputed area. The low gas prices specified in production sharing contracts, which were indexed to fixed rather than market-based benchmarks, made the economics of deep-water development unattractive at the high costs that such development typically requires.

The most telling demonstration of this disengagement was the 2016 bidding round, in which not a single bid was received for any offshore block. This result was a profound shock to the energy planning establishment and provided the impetus for the comprehensive revision of the PSC framework that eventually produced the PSC-2023 model approved by the cabinet in July 2023 and used as the basis for the 2024 Offshore Bidding Round.

CHAPTER 4: PRODUCTION SHARING CONTRACTS AS LEGAL INSTRUMENTS

4.1 The Origins and Global Evolution of Production Sharing Contracts

The Production Sharing Contract is the dominant instrument through which states govern the relationship between the national oil company and international oil companies in the exploration and exploitation of offshore hydrocarbons. Its origins are traced to Indonesia, where in 1966 the state oil company Pertamina (then known as PN Pertamina) developed a new contractual model that vested ownership of all hydrocarbons in the state and its national company while providing

the international contractor with a share of production as the return on its investment. This model, which replaced the concession system prevalent in the Middle East and elsewhere, was designed to reflect the principle of permanent sovereignty over natural resources while maintaining the commercial attractiveness necessary to attract the capital and technology of international oil companies.

The PSC model spread rapidly through the developing world in the 1970s and 1980s, driven by the political imperatives of resource nationalism following the oil price shocks of 1973 and 1979 and by the economic realities that required continued engagement with international oil companies for access to capital, technology, and markets. The global variety of PSC terms is enormous, reflecting the different geological, fiscal, political, and institutional contexts in which they operate. Key variable elements include the cost recovery limit, which caps the proportion of production that the contractor can use to recover exploration and development costs before profit oil is shared; the profit sharing ratio, which determines how the remaining production after cost recovery is divided between the state and the contractor; the R-factor or other formula by which the profit share varies with project profitability; and fiscal stability provisions that protect the contractor against adverse changes in tax or regulatory requirements during the contract period.

The legal theory of the PSC is complex and has been the subject of extensive academic and professional commentary. Unlike a concession, in which the state grants the contractor the right to explore and exploit a defined area subject to specified conditions, the PSC is formally a service contract: the contractor provides exploration, development, and production services on behalf of the state and is compensated in kind through a share of the production it generates. This theoretical framework has important legal consequences: it means that title to all hydrocarbons in the ground and at the point of production vests in the state rather than the contractor, and the contractor's entitlement is to a share of production at or after the delivery point rather than to the hydrocarbons themselves. This distinction between a concession right to hydrocarbons and a contractual entitlement to a production share is not merely academic; it has significant implications for the tax treatment of the contractor's revenues, for the enforcement of the contractor's rights against third parties including lending banks, and for the applicable law and dispute resolution in case of contract termination.

4.2 Bangladesh's Production Sharing Contract Framework: A Critical Legal Analysis

Bangladesh's Production Sharing Contract framework has evolved through several generations, from the early contracts of the 1990s through the PSC-2016 model, the PSC-2019 model, and the most recent PSC-2023 model that governs the 2024 Offshore Bidding Round. A critical legal analysis of the evolution of this framework reveals both significant improvements and persistent deficiencies.

The PSC-2023 model incorporates several important improvements over its predecessors, as documented in the reporting of the Business Standard and other Bangladeshi financial media at the time of the 2024 bidding round launch. The replacement of fixed gas prices with a market-linked pricing mechanism, specifically a price equivalent to 10 percent of the prevailing Brent crude oil price, is a significant improvement that aligns Bangladesh's gas pricing with global market reality and removes one of the principal objections that international oil companies had to

the earlier fixed-price contracts. The abolition of signature bonuses and royalties, which had been significant upfront costs under the earlier models, reduces the financial threshold for investment and improves the project economics for marginal discoveries. The exemption from import duties on exploration and production equipment and the assumption of the contractor's income tax liability by Petrobangla are further concessions designed to improve the competitive position of Bangladesh's offshore blocks.

The profit oil sharing mechanism under PSC-2023, based on an R-factor formula that ties the contractor's profit share to the ratio of cumulative revenues to cumulative costs, represents a more sophisticated approach to capturing economic rents from hydrocarbon development than the fixed production sharing splits of earlier models. The R-factor model aligns the contractor's profit share with project profitability, providing higher returns to the contractor when projects are marginal and a larger share for the state when projects are highly profitable. The bidding parameters, which allow international oil companies to bid on the upper and lower limits of the R-factor profit sharing bands, introduce a competitive element into the fiscal terms determination that is consistent with international best practice.

However, the PSC-2023 model also has significant weaknesses from a legal and governance perspective. The absence of specific provisions on local content requirements, which would require IOCs to use Bangladeshi goods, services, and personnel in their offshore operations, is a significant gap that foregoes the opportunity to develop domestic industrial capacity and employment in the offshore energy sector. Countries including Nigeria, Brazil, and Norway have developed comprehensive local content frameworks for their offshore energy sectors, with measurable benefits for domestic industrial development and technology transfer. Bangladesh's failure to incorporate local content requirements into the PSC framework represents a missed opportunity that a reformed framework should address.

The transparency provisions of the PSC-2023 model are also inadequate by international standards. The model does not require the publication of contract terms, production data, cost recovery accounts, or revenue sharing calculations. This contractual confidentiality, which is inconsistent with EITI principles and with the transparency standards that international investors increasingly demand, obscures the state's fiscal take from offshore operations and prevents independent scrutiny of whether the government is effectively capturing the value of the national resource.

The environmental provisions of the PSC-2023 model are general in nature and do not reflect the specific environmental governance obligations that the 2024 ITLOS Advisory Opinion has confirmed apply to offshore energy operations. The PSC does not contain specific provisions on well integrity, blowout prevention, or major accident hazard management. It does not require the contractor to maintain environmental damage bonds or insurance sufficient to cover the costs of a major spill. And it does not specifically address climate change, greenhouse gas emissions, or the emerging international standards for the carbon footprint of offshore operations.

The dispute resolution clause of the PSC-2023 model, which provides for international commercial arbitration, is a standard provision in offshore energy contracts and reflects the well-established principle that disputes between states and international oil companies should be

resolved through neutral international arbitration rather than in domestic courts. However, the choice of arbitral rules and venue has important practical implications, and the model's specific provisions in this regard should be scrutinised carefully in the context of recent developments in investment treaty arbitration and the debate about the relative merits of different arbitral forums.

4.3 Stabilisation Clauses, Sovereign Rights, and the Tension in PSC Design

One of the most jurisprudentially challenging aspects of Production Sharing Contract design is the stabilisation clause, which purports to protect the contractor against adverse changes in the legal or fiscal framework applicable to the contract. Stabilisation clauses take various forms, from simple provisions that freeze the tax and regulatory environment as it stood at the time of contract execution to more sophisticated provisions that require the state to renegotiate contract terms if the fiscal regime changes in a manner adverse to the contractor, or to compensate the contractor if the fiscal burden increases beyond a specified level.

The tension between stabilisation clauses and the sovereign state's right to amend its laws in the public interest is a fundamental problem of international investment law that has generated an enormous body of academic and jurisprudential commentary. The state's obligation to protect foreign investors' legitimate expectations is a recognised principle of international investment law, derived from the minimum standard of treatment under customary international law and from the fair and equitable treatment standard in bilateral investment treaties. At the same time, the state's sovereign right to regulate in the public interest, including by increasing environmental standards, imposing new safety requirements, or revising fiscal terms in response to changed circumstances, is a fundamental attribute of sovereignty that no contract can extinguish.

For Bangladesh, this tension is particularly acute in the offshore energy context because the legal and regulatory framework is expected to evolve significantly over the life of any offshore development project, which may span twenty to thirty years. Environmental standards will tighten, safety requirements will increase, and fiscal frameworks will change in response to global developments. If the PSC stabilisation clause prevents Bangladesh from applying new environmental or safety standards to offshore operations, or if it requires compensation for the contractor whenever regulations are tightened, then Bangladesh's offshore energy development will be conducted in a regulatory time capsule that insulates the contractor from the evolving responsibilities of offshore energy governance.

The legal framework for managing this tension in Bangladesh's PSC model is not yet fully developed. The PSC-2023 model contains a stabilisation provision whose scope and effect are not entirely clear, and this ambiguity could generate significant disputes in the future. A reformed PSC framework should include carefully drafted stabilisation provisions that protect the contractor against capricious fiscal changes while explicitly preserving the state's right to regulate environmental, safety, and public health matters without triggering stabilisation compensation, consistent with the approach taken in best-practice PSC models in jurisdictions including Norway and Timor-Leste.

4.4 The Decommissioning Regime: A Critical Gap in Bangladesh's Framework

The decommissioning of offshore hydrocarbon infrastructure, specifically the removal of platforms, wellheads, pipelines, and associated structures at the end of their productive life, is one of the most significant environmental and financial governance challenges in offshore energy regulation. The costs of decommissioning are enormous, particularly for deepwater infrastructure, and they fall at the end of the project's life when the operator has already extracted the commercial value of the resource. The legal framework for decommissioning must ensure that adequate financial provisions are made throughout the project's life, that responsibility for decommissioning costs is clearly allocated between the contractor and the state, and that decommissioning is carried out in accordance with environmental standards that protect the marine ecosystem.

UNCLOS Article 60(3) requires that abandoned or disused installations or structures be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organisation, specifically the International Maritime Organization. The IMO Guidelines and Standards for the Removal of Offshore Installations and Structures, adopted in 1989 and periodically updated, provide the international standard against which Bangladesh's decommissioning framework must be measured. These guidelines generally require removal unless the flag state and the coastal state agree to alternative uses, such as the conversion of platforms to artificial reefs.

Bangladesh's current legal framework contains no specific provisions on the decommissioning of offshore installations. The PSC-2023 model does not clearly address the allocation of decommissioning liability between Petrobangla and the contractor, or require the contractor to establish adequate financial provisions for decommissioning. This is a gap that must be addressed urgently before offshore development proceeds, because once an offshore operator becomes insolvent or withdraws from a jurisdiction, the state may be left with the full cost of decommissioning and no legal mechanism to recover it.

CHAPTER 5: THE 2024 BANGLADESH OFFSHORE BIDDING ROUND: LEGAL AND POLICY ANALYSIS

5.1 The Context and Structure of the 2024 Bidding Round

The 2024 Bangladesh Offshore Bidding Round, launched by Petrobangla in March 2024, is the most significant development in Bangladesh's offshore energy governance since the conclusion of the maritime boundary arbitrations in 2014. It is the first bidding round since 2012 to offer offshore acreage, and the first since the resolution of the maritime boundary disputes that previously clouded title to significant portions of Bangladesh's offshore area. The round offered twenty-four blocks: nine shallow water blocks designated SS-01, SS-02, SS-03, SS-05, SS-06, SS-07, SS-08, SS-10, and SS-11, and fifteen deep water blocks designated DS-08 through DS-22. These blocks cover a significant portion of Bangladesh's 118,813-square-kilometre EEZ and continental shelf, encompassing both the near-shore areas where geological evidence is most mature and the deep-water areas where the largest potential discoveries are anticipated.

Petrobangla launched the 2024 Bangladesh Offshore Bid Round as the first since 2012 to offer offshore acreage, comprising nine shallow water blocks and fifteen deep water blocks, with participation open to fifty-five international companies singly or in association with other companies. Oil & Gas Journal Many oil giants, including Chevron and ExxonMobil, had shown interest in investing in offshore oil and gas exploration, reflecting the appeal of the revised PSC-2023 terms. The Business Standard

The geological basis for the 2024 round was substantially improved by the completion of the TGS multi-client seismic survey. TGS, in partnership with SLB and Petrobangla, acquired a 2D multi-client seismic data survey with widespread coverage across offshore Bangladesh, encompassing over 75,000 square kilometres across all 24 blocks on offer, with acquisition of the 12,636-line-kilometre survey completed in April 2023. Oil & Gas Journal The availability of this seismic data significantly reduced the technical risk and upfront costs for potential bidders, addressing one of the obstacles that had contributed to the failure of earlier bidding rounds.

The fiscal terms of the 2024 round, governed by PSC-2023, were designed to be substantially more attractive than those of earlier rounds. The key terms included full repatriation of profit, no signature bonus or royalty, profit sharing based on an R-factor with biddable upper and lower limits, an option for contractors to sell their share of natural gas in the domestic market to a third party subject to Petrobangla's right of first refusal, an option to export the contractor's share of natural gas subject to the same right of first refusal, and a carried stake of ten percent for BAPEX in shallow sea blocks only. Portal

The initial contract period lasts six years, extendible by three, with contractors required to provide a bank guarantee of three million US dollars for the initial exploration period. After four years have elapsed and the contractor wishes to continue, it must commit to drilling an exploration well backed by a further bank guarantee of twenty million US dollars for the remaining two years, with another bank guarantee of the same amount for the three-year extension period. RIGZONE

5.2 The Legal Architecture of the Bidding Process

The legal architecture of the bidding process raises several important questions that deserve careful analysis. The selection of the fifty-five eligible international companies, and the criteria by which eligibility was determined, are not fully transparent in the publicly available documentation. The qualification requirement of an offshore daily production of at least 15,000 barrels of oil equivalent or 150 million cubic feet of gas in operated assets represents a reasonable threshold for technical competence but may exclude some capable mid-size companies while including others whose financial capacity may be more limited.

The legal status of the bidding round documentation, specifically whether it constitutes an offer in the contractual sense or merely an invitation to treat, has important implications for the legal relationships between Petrobangla and potential bidders. If the bidding round documentation is treated as an invitation to treat, then the submission of a bid by a company creates no binding obligation on Petrobangla to award a contract, and Petrobangla retains full discretion to accept, reject, or renegotiate bids. If, on the other hand, the documentation creates implied obligations of

good faith in the selection process, then Petrobangla's discretion may be constrained by the legitimate expectations of bidders.

The role of the government in the bid evaluation process, specifically the extent to which decisions are made by Petrobangla independently or subject to ministerial direction, is also a governance concern. The PSC regime's framework, under which the Ministry of Power, Energy and Mineral Resources retains oversight authority while Petrobangla conducts commercial negotiations, creates a governance structure whose lines of accountability are not always clear and whose procedures for managing conflicts of interest are not fully specified.

The interaction between the offshore bidding round and the broader governance of Bangladesh's energy sector is another area of concern. Bangladesh's energy policy, which includes commitments both to fossil fuel development for energy security and to the transition to renewable energy in accordance with its nationally determined contributions under the Paris Agreement, creates an internal tension that the legal framework must manage. Investments in deep-water offshore gas development will require regulatory certainty over periods of twenty to thirty years, during which time the global and domestic energy landscape will continue to transform. The fiscal and regulatory stability commitments in the PSC must balance the contractor's need for investment certainty against the state's need to maintain policy flexibility in response to the energy transition.

5.3 The Shallow Water versus Deep Water Distinction: Different Legal and Environmental Risks

The distinction between shallow water and deep water blocks in the 2024 bidding round has important legal and environmental implications. Shallow water operations, generally defined as those in water depths of less than 200 metres, are technically more straightforward, less expensive, and more easily regulated than deep-water operations. Deep water operations, in water depths of 500 metres or more, involve extreme technical challenges including high pressures, low temperatures, remoteness from shore support, and the use of sophisticated floating drilling units and remotely operated vehicles. The risk profile of deep-water operations is significantly higher than that of shallow water, as demonstrated by the Deepwater Horizon disaster and by several other major accidents in deep-water fields around the world.

Bangladesh has no experience with deep-water offshore operations; all previous offshore gas production was from shallow water fields. The regulatory framework for deep-water operations must therefore be built largely from scratch, drawing on international best practices and the experience of other deep-water producing states. The regulatory requirements for well design and integrity verification, blowout preventer specifications, emergency response planning, pollution control preparedness, and the independent verification of safety management systems that apply to deep-water operations are substantially more demanding than those for shallow water, and the adequacy of Bangladesh's regulatory framework for these requirements is a serious concern.

The environmental risk profile of deep-water versus shallow water operations also differs significantly. A major blowout in deep water, where the well is far below the surface and control

is exercised through remotely operated vehicles rather than divers, is far more difficult and costly to contain than a shallow-water blowout. The Deepwater Horizon blowout lasted 87 days before the well was finally capped, releasing an estimated 4.9 million barrels of oil into the Gulf of Mexico. A comparable incident in Bangladesh's deep-water blocks could cause catastrophic damage to the Bay of Bengal marine environment, affecting fisheries, coral ecosystems, seabed habitats, and coastal communities throughout the region. The legal framework must ensure that the environmental consequences of such a scenario are adequately addressed through mandatory well design standards, blowout preventer requirements, oil spill response planning, and financial assurance mechanisms.

5.4 Post-Bidding Round Developments and Legal Challenges

The 2024 Bangladesh Offshore Bidding Round's outcome as of the writing of this Part requires careful analysis. The interest expressed by major international oil companies including ExxonMobil and Chevron is encouraging, but expressions of interest do not necessarily translate into binding bids, and the conversion of bidding interest into signed contracts and actual exploration operations will depend on the detailed negotiation of PSC terms, the satisfactory resolution of due diligence concerns, and the maintenance of a stable political and regulatory environment in Bangladesh.

The political transition in Bangladesh following the events of mid-2024, which resulted in a change of government, created a period of uncertainty that may have affected the progress of the offshore bidding process. The stability and continuity of Bangladesh's offshore energy governance framework through political transitions is itself an important governance question: the PSC framework must be designed to survive changes in government and to provide the long-term regulatory certainty that major capital investments require. The constitutional and statutory framework for this continuity, including the binding character of duly executed contracts on successive governments and the procedures for the review and renegotiation of contracts, are aspects of the legal framework that deserve attention in any comprehensive reform.

CHAPTER 6: OFFSHORE ENVIRONMENTAL GOVERNANCE: REGULATORY STANDARDS AND LEGAL OBLIGATIONS

6.1 The International Environmental Framework for Offshore Energy

The international environmental governance of offshore hydrocarbon operations is addressed through a combination of UNCLOS provisions, international conventions dealing with specific pollution threats, the IMO's regulatory framework for ships and mobile offshore installations, and the emerging framework of climate obligations under UNCLOS as elaborated by the 2024 ITLOS Advisory Opinion. Understanding the interaction of these different layers of international obligation is essential for designing an adequate domestic framework for Bangladesh.

Part XII of UNCLOS, as discussed in earlier Parts of this commentary, establishes the due diligence obligation to prevent, reduce, and control marine pollution. Article 208 specifically

addresses pollution from seabed activities subject to national jurisdiction, requiring states to adopt laws and regulations and to take other measures to prevent, reduce, and control such pollution, which shall be no less effective than international rules, standards, and recommended practices and procedures. The reference to international rules, standards, and recommended practices implies that UNCLOS sets a floor, not a ceiling, for domestic environmental regulation of offshore activities, and that this floor is defined by reference to the best international practice rather than by any specific UNCLOS provision.

The Offshore Protocol to the Barcelona Convention, adopted for the Mediterranean region, the OSPAR Convention's offshore installations provisions for the North-East Atlantic, and the Nairobi Convention's framework for the Indian Ocean region all provide regional context for the governance of offshore activities in areas relevant to Bangladesh. The Indian Ocean region, governed by the Nairobi Convention and its Protocols, covers the Bay of Bengal, and the framework it establishes is directly relevant to Bangladesh's offshore environmental governance obligations. Bangladesh became a party to the Nairobi Convention in 1995, and its obligations under this framework include the adoption of measures to prevent, reduce, and control pollution from offshore activities.

The MARPOL Convention, which governs pollution from ships, applies to drilling ships and mobile offshore drilling units when they are engaged in navigation, but not to fixed platforms or when they are on location and engaged in drilling operations. This jurisdictional gap means that the discharge of drilling fluids, cuttings, and other waste from fixed platforms and from drilling units on location is governed by national regulation rather than MARPOL, and it is an area where Bangladesh's domestic framework must establish specific standards.

6.2 The 2024 ITLOS Advisory Opinion and Offshore Energy Operations

The 2024 ITLOS Advisory Opinion's confirmation that anthropogenic greenhouse gas emissions constitute marine pollution under UNCLOS, and that states have due diligence obligations to prevent, reduce, and control such pollution, has profound implications for the governance of offshore energy operations. The Advisory Opinion did not directly address offshore oil and gas development, but its reasoning applies with full force to this sector, which is one of the most significant sources of direct and indirect greenhouse gas emissions in any coastal state's economy.

The direct greenhouse gas emissions from offshore energy operations include methane venting and flaring during exploration and production, the fuel combustion of offshore equipment including drilling rigs, support vessels, and helicopters, and the emissions from gas and oil processing facilities. The indirect emissions include the combustion of the hydrocarbons produced from offshore operations by end users throughout the economy. The due diligence obligation under Part XII, as elaborated by the Advisory Opinion, requires states to regulate these direct emissions to the highest available standards and to take into account the lifecycle emissions of offshore energy production in their overall greenhouse gas management framework.

The application of this due diligence standard to Bangladesh's offshore energy governance raises difficult questions about the consistency of new offshore oil and gas development with

Bangladesh's climate commitments under the Paris Agreement and with its obligations under UNCLOS. Bangladesh's NDC commits to significant reductions in greenhouse gas emissions and to the transition toward cleaner energy sources. The development of major new offshore gas fields, while providing important energy security benefits in the near term, creates a carbon lock-in risk that conflicts with the long-term trajectory of decarbonisation. The legal framework for offshore energy governance must grapple explicitly with this tension rather than treating it as a matter for energy policy alone.

A reformed regulatory framework for Bangladesh's offshore energy sector should incorporate specific provisions on greenhouse gas emissions from offshore operations, including requirements to minimise flaring and venting, standards for the energy efficiency of offshore equipment, mandatory reporting of greenhouse gas emissions, and assessment of the lifecycle carbon footprint of proposed offshore developments as part of the environmental impact assessment process. These provisions would be consistent with the due diligence obligations confirmed by the Advisory Opinion and with Bangladesh's broader climate commitments.

6.3 Environmental Impact Assessment: International Standards and Bangladesh's Framework

Environmental impact assessment is the primary procedural mechanism through which the environmental effects of proposed offshore energy developments are evaluated and addressed before authorisation is granted. UNCLOS Article 206 requires states to assess the potential effects of planned activities when they have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment. This obligation applies clearly to offshore hydrocarbon exploration and development projects, which have the potential to cause significant impacts on the marine environment through routine operations, drilling discharges, and the risk of major accidents.

The environmental impact assessment framework in Bangladesh is governed primarily by the Environment Conservation Act of 1995, which establishes a tiered EIA system, and the Environment Conservation Rules of 1997, which specify the categories of projects requiring EIA and the procedures to be followed. Offshore oil and gas exploration and production are listed in Schedule 1 of the Rules as activities requiring EIA, but the specific requirements and standards for offshore EIA are not separately specified and are governed by the general EIA framework.

The general EIA framework in Bangladesh has several deficiencies in the offshore energy context. The baseline data requirements for offshore EIA, which should include surveys of benthic habitat, fish and cetacean populations, oceanographic conditions, and existing uses of the area, are not specifically defined for the offshore context. The procedural requirements for public consultation on offshore EIA, which should include consultation with coastal fishing communities who may be affected by the operations, are not clearly adapted to the offshore context. The review and approval process for offshore EIA does not involve a dedicated marine environmental expertise that is separate from the general environmental approval process. And the monitoring requirements for approved offshore operations, including requirements for ongoing environmental monitoring and reporting, are not adequately specified.

A reformed offshore environmental governance framework should include specific regulations for the EIA of offshore hydrocarbon projects, addressing baseline survey requirements, risk assessment methodology, consultation procedures, approval conditions, and monitoring and reporting requirements. These regulations should be consistent with international best practice, including the relevant guidance of IUCN, the IOGP, and the international financial institutions that apply environmental and social standards to offshore energy projects.

6.4 Oil Spill Response: Legal Obligations and Operational Capacity

The risk of major oil spills from offshore hydrocarbon operations in Bangladesh's EEZ is a particular concern given the ecological sensitivity of the Bay of Bengal and the dependence of millions of people on its fisheries. The legal framework for oil spill response must address both the prevention of spills through operational standards and the response when spills occur, including the legal obligations of operators, the capacity of the state to respond, and the liability and compensation framework for environmental damage.

The International Convention on Oil Pollution Preparedness, Response and Co-operation, known as OPRC, to which Bangladesh is a party, requires state parties to establish a national system for responding promptly and effectively to oil pollution incidents, including the designation of a national authority responsible for oil spill preparedness and response, the development of a national oil spill contingency plan, and the establishment of oil spill response equipment and trained personnel. Bangladesh has developed a National Oil Spill Contingency Plan, but the operational capacity to implement it, particularly for a major deep-water spill, is limited. The legal requirement to maintain this capacity, and to develop it to a standard adequate for the offshore operations contemplated in the 2024 bidding round, should be clearly specified in the offshore petroleum regulatory framework.

The liability and compensation framework for offshore oil spills in Bangladesh is governed primarily by the general tort law, which is inadequate for the scale and complexity of major offshore spill liability. The absence of a specific liability regime for offshore pollution, analogous to the regime established by the IOPC Fund conventions for tanker spills, leaves the state and affected parties without an adequate legal mechanism for compensation in the event of a major offshore incident. A reformed framework should establish a statutory strict liability regime for offshore operators, require mandatory financial security including insurance or bonding to cover the costs of a major spill, and create clear administrative procedures for the assessment and enforcement of spill-related claims.

CHAPTER 7: DEEP SEABED MINING AND BANGLADESH'S RIGHTS AND OBLIGATIONS

7.1 The International Seabed Authority and the Common Heritage Regime

The governance of mineral resources in the Area, the deep seabed beyond the limits of national jurisdiction, is the most philosophically distinctive feature of the UNCLOS regime and one of

the most contested areas of contemporary international ocean governance. The International Seabed Authority, established as the institutional manifestation of the common heritage of mankind principle, has been engaged since UNCLOS entered into force in 1994 in the development of the regulatory framework for deep-sea mining, a process that has proved far more complex and contentious than its drafters anticipated.

The ISA Council continued its work on the draft regulations for the commercial exploitation of deep-sea minerals, completing a second reading of the revised consolidated text covering regulations 56 through 107 in its thirty-second session, following earlier consideration of regulations 1 through 55 in Part I of the same session held in March 2025. IISD Earth Negotiations Bulletin This process of finalising the Mining Code, which governs the conditions under which commercial exploitation of deep-sea mineral resources can proceed, has been characterised by profound disagreement among ISA member states about the pace and conditions of deep-sea mining development.

A growing number of states are calling for a moratorium or precautionary pause on deep-sea mining exploitation activities until the Draft Exploitation Regulations are agreed, even as many proponents are pushing to have the mining code in place in 2025 as quickly as possible. Taylor & Francis Online The election of a new ISA Secretary-General in July 2024, with the replacement of the unabashedly pro-mining Michael Lodge by Leticia Reis de Carvalho, the first woman, the first Latin American, and an oceanographer to lead the ISA, Taylor & Francis Online reflected these divisions and signalled a potential shift in the institutional culture toward a more cautious approach.

The controversy was dramatically intensified by the April 2025 United States Executive Order purporting to authorise deep-sea mining in areas beyond national jurisdiction outside the ISA framework. The ISA Secretary-General expressed deep concern over TMC's announcement to seek a US permit for deep-sea mining, bypassing ISA's established framework, noting that any commercial exploitation outside of national jurisdiction carried out without the authorisation of ISA would constitute a violation of international law. International Seabed Authority The legal analysis of this development, and its implications for the international law of the sea, requires careful attention.

Under UNCLOS Article 137(3), states parties have a duty not to recognise any claim, acquisition, or exercise of rights over minerals recovered from the Area by any state or by any natural or juridical person, unless conducted in accordance with Part XI of UNCLOS. International Seabed Authority This non-recognition obligation creates a positive legal duty for all UNCLOS parties, including Bangladesh, to refuse to recognise the validity of deep-sea mining operations conducted outside the ISA framework, and it raises significant questions about the legal status of minerals extracted under US domestic law rather than the ISA regime.

7.2 Bangladesh's Interests in the Deep Seabed Mining Governance Debate

Bangladesh's interest in the governance of deep-sea mining is multifaceted and derives from several different dimensions of its legal and economic position. As a developing coastal state with limited technological capacity but full UNCLOS membership, Bangladesh has a stake in the

realisation of the common heritage principle's promise that the benefits of deep-sea mineral extraction will be equitably shared with all states, including those that lack the capacity to participate directly in exploitation.

The mandate of the ISA includes ensuring that the financial and other economic benefits of deep-sea mining are equitably distributed to all states, regardless of their geographical location or developmental status, and the Economic Planning Commission, established by UNCLOS but not yet fully operational, is essential for equitable benefit-sharing. IISD Earth Negotiations Bulletin Bangladesh's engagement in the ISA's governance processes, including active participation in the development of the exploitation regulations and in the operationalisation of the EPC, is an important dimension of its international maritime legal advocacy.

Bangladesh also has an interest in the deep seabed mining debate from the perspective of its continental shelf claim in the Bay of Bengal. The deep seabed mining potential of Bangladesh's own extended continental shelf, including the possibility of mineral resources on the Bengal Fan and in the deep waters of the Bay of Bengal, has been the subject of preliminary analysis by scholars associated with the Bangladesh Centre for Ocean Law and Policy. Blogger While the mineral resources of Bangladesh's outer continental shelf fall within national jurisdiction and are not subject to the ISA regime, the governance lessons of the ISA process are relevant to the design of a domestic regulatory framework for any future exploitation of these resources.

The US Executive Order of April 2025 and the fracturing of the ISA governance framework has created a new geopolitical dynamic that affects Bangladesh's position in the international law of the sea community. As a state party to UNCLOS that has generally supported the multilateral governance framework of the Convention, Bangladesh has an interest in defending the integrity of the ISA regime and opposing unilateral actions that would undermine the common heritage principle. At the same time, Bangladesh must consider its bilateral relationships with major powers, including the United States, whose cooperation it needs in other areas of its development agenda, and this creates a diplomatic challenge that requires careful navigation.

7.3 Polymetallic Nodules, Cobalt-Rich Crusts, and Critical Minerals: The Strategic Dimension

The specific mineral resources that are the subject of deep-sea mining interest have strategic dimensions that are increasingly shaping the geopolitical context of ISA governance. Polymetallic nodules, found in greatest abundance on the abyssal plains of the Clarion-Clipperton Zone in the Pacific, contain high concentrations of manganese, nickel, copper, and cobalt. Cobalt-rich crusts, found on the flanks of seamounts in the Pacific and Indian Oceans, contain concentrations of cobalt that are critical for the production of lithium-ion batteries and other clean energy technologies. Seafloor massive sulphides, found around hydrothermal vents, contain high concentrations of copper, zinc, gold, and silver.

As of June 2025, the ISA had issued thirty-one exploration contracts to public and private mining enterprises for seabed mineral resources, including seventeen exploration contracts for polymetallic nodules in the Clarion-Clipperton Zone, which is estimated to contain more copper, cobalt, nickel, and manganese than all known land deposits combined. Congress.gov The

geopolitical competition for critical minerals, driven by the clean energy transition and the strategic competition between the United States and China, is placing intense pressure on the ISA governance framework and threatening to override the careful balance of interests that UNCLOS sought to establish.

China and Russia have challenged the US extended continental shelf claim in the Arctic and Pacific Oceans, arguing at the ISA that the United States cannot make these claims because it has not ratified UNCLOS, illustrating how the governance of deep-sea mineral resources is becoming entangled with broader geopolitical competition. Atlantic Council

For Bangladesh, the strategic implications of the critical minerals dimension are indirect but significant. Bangladesh's own deep-water areas may contain significant mineral resources, including the polymetallic sediments associated with the Bengal Fan's unique sedimentary environment. As global demand for critical minerals intensifies, the economic value of any such resources will increase, and Bangladesh needs to be positioned to evaluate and, if appropriate, exploit those resources under a legal framework that maximises national benefit.

CHAPTER 8: OFFSHORE RENEWABLE ENERGY: LEGAL FRAMEWORK AND PROSPECTS

8.1 UNCLOS and Offshore Renewable Energy: Interpreting Article 56

The governance of offshore renewable energy, specifically offshore wind, tidal, wave, and ocean thermal energy conversion, is an area of the law of the sea that is undergoing rapid development in response to the global energy transition. UNCLOS Article 56(1)(a), which grants the coastal state sovereign rights over the EEZ for the purpose of exploring and exploiting natural resources and for other activities for the economic exploitation and exploration of the zone, including the production of energy from water, currents, and winds, provides the explicit treaty basis for coastal state jurisdiction over offshore renewable energy in the EEZ.

Article 60 of UNCLOS, which grants the coastal state the exclusive right to construct and authorise artificial islands, installations, and structures in the EEZ, makes it clear that offshore wind turbines and substations should be considered to constitute installations or structures within the meaning of Article 60, rather than ships within the meaning of Article 92, thereby bringing them within the scope of coastal state exclusive jurisdiction. Taylor & Francis Online

The application of this framework to offshore wind energy has been the subject of recent scholarly attention. The article in the Ocean Development and International Law journal on applying the UNCLOS framework to offshore wind regulation in Australia and New Zealand, published in 2023 and relevant to Bangladesh's analogous governance challenges, addresses the specific interpretive questions that arise in translating the general UNCLOS provisions on artificial islands and installations into a regulatory framework for offshore wind. The key finding is that the coastal state's authority to regulate offshore wind in the EEZ is comprehensive and

exclusive, but that the exercise of this authority must be consistent with the freedoms of navigation, overflight, and the laying of submarine cables that other states retain in the EEZ.

8.2 Bangladesh's Offshore Renewable Energy Potential and Legal Framework

Bangladesh's offshore renewable energy potential is significant, though less well characterised than its hydrocarbon potential. The Bay of Bengal experiences consistent monsoon winds that make offshore wind energy technically feasible in Bangladesh's shallow water areas, and tidal energy is potentially available in the areas around the major estuaries and tidal channels of the delta. Ocean thermal energy conversion, which exploits the temperature difference between surface and deep waters, is technically feasible in the deeper waters of Bangladesh's EEZ where there is sufficient thermocline depth.

Bangladesh's domestic legal framework for offshore renewable energy is essentially non-existent at present. The Renewable Energy Policy of 2008 and the Renewable Energy Development Authority Act address onshore and nearshore renewable energy but do not specifically address offshore developments in the EEZ. The Territorial Waters and Maritime Zones Act and its 2021 amendment do not specifically address offshore energy installations. The absence of a dedicated legal framework creates uncertainty about the regulatory approvals required for offshore renewable energy projects, the licensing procedures, the safety and environmental standards applicable, and the fiscal treatment of offshore renewable energy revenues.

The development of offshore renewable energy in Bangladesh's EEZ will require a clear legal framework that establishes the licensing process, specifies the conditions for the grant of licences including environmental impact assessment requirements, addresses the interaction with other uses of the EEZ including shipping and fishing, and provides for the safety of marine navigation around offshore energy installations. The development of this framework, drawing on the experience of offshore wind pioneer jurisdictions including Denmark, the United Kingdom, and Germany, should be an element of the comprehensive maritime law reform agenda.

The interface between offshore renewable energy development and Bangladesh's nationally determined contributions under the Paris Agreement is an important dimension of the governance framework. Bangladesh has committed to significant growth in renewable energy capacity, and offshore wind could make a meaningful contribution to this target while also providing the energy security benefits of a domestic energy source that is not dependent on volatile international fuel prices. The development of the legal framework for offshore renewable energy should be explicitly connected to Bangladesh's climate commitments and integrated into the comprehensive energy transition planning that the Paris Agreement requires.

CHAPTER 9: FOREIGN INVESTMENT LAW AND OFFSHORE ENERGY: INVESTOR-STATE DISPUTES AND PROTECTION

9.1 The Intersection of International Energy Law and Investment Law

The governance of offshore energy development involves not only the law of the sea but also the international law of foreign investment, specifically the bilateral investment treaties that Bangladesh has concluded with numerous states and the customary international law minimum standard of treatment for foreign investors. The intersection of these two bodies of law creates a complex regulatory environment for offshore energy governance, in which the state's rights under the law of the sea, including its right to regulate and tax offshore operations, are constrained by the investment law obligations that it has assumed toward foreign investors.

Bangladesh has concluded bilateral investment treaties, formally known as investment promotion and protection agreements, with a substantial number of states including many whose nationals are likely to be involved in offshore energy development, such as the United States, the United Kingdom, France, Germany, the Netherlands, Japan, South Korea, and China. These BITs typically contain provisions on fair and equitable treatment, full protection and security, most-favoured-nation treatment, national treatment, protection against expropriation without compensation, and investor-state dispute settlement through international arbitration. The interaction of these BIT protections with the PSC stabilisation provisions discussed above creates a double layer of protection for international investors against adverse regulatory changes.

The fair and equitable treatment standard, which is the most frequently invoked BIT protection in investor-state arbitration, requires states to treat covered investments in accordance with the investor's legitimate expectations at the time of the investment and to maintain a stable and predictable regulatory framework. In the offshore energy context, this standard has been applied by arbitral tribunals in a number of cases to constrain states' ability to increase taxes, revoke licences, or change regulatory requirements affecting offshore energy investments, even when these changes were enacted in pursuit of legitimate public policy objectives.

9.2 Investor-State Dispute Settlement and its Implications for Bangladesh's Offshore Energy Governance

The investor-state dispute settlement mechanism, through which foreign investors can bring claims directly against the host state before international arbitral tribunals, bypassing the domestic legal system, has been the subject of intense criticism and debate in recent years. Critics argue that ISDS provides excessive protection to foreign investors at the expense of states' regulatory autonomy, that it creates systemic bias in favour of investors whose claims are adjudicated by arbitrators with strong ties to the investment law community, and that it has a chilling effect on states' regulatory decisions, discouraging them from adopting legitimate public interest measures that might attract investor claims.

For Bangladesh, the ISDS risk in the offshore energy context is real and significant. Any regulatory action that increases the fiscal burden on offshore operators, tightens environmental or safety standards, modifies licence conditions, or terminates a PSC for any reason could potentially give rise to an ISDS claim. The costs of defending ISDS claims are substantial, running to millions of dollars in legal fees and expert costs, and adverse awards can impose enormous financial burdens on the state. The Bangladesh government's limited experience with international commercial and investment arbitration, compared to the sophisticated legal teams

that major international oil companies can deploy, creates an asymmetry that further increases the risk of adverse outcomes.

The design of Bangladesh's offshore energy regulatory framework must therefore take careful account of the ISDS risk. Key design principles include ensuring that regulatory actions are based on clearly stated public interest justifications, documented in advance, and implemented consistently with the PSC terms and the applicable BIT standards; maintaining clear and transparent administrative procedures for regulatory decisions; avoiding retroactive changes to licence conditions or fiscal terms; and building strong expertise in international investment law into the state's legal advisory capacity for offshore energy governance.

At the same time, Bangladesh should be mindful of the broader debate about reforming the ISDS system and should actively participate in multilateral discussions about reform, including the UNCITRAL Working Group III process on ISDS reform and the deliberations of the Energy Charter Treaty reform process. The interests of developing countries in the ISDS debate are not simply to eliminate investor protection, which would chill the foreign investment that Bangladesh needs for offshore energy development, but to ensure that investor protection is balanced against states' legitimate regulatory rights, including the right to regulate for environmental protection, safety, and climate change mitigation.

9.3 The Relationship Between the PSC and Bilateral Investment Treaty Protection

A specific legal question that arises in the offshore energy context is the relationship between the contractual protection provided by the PSC and the treaty-based protection provided by a bilateral investment treaty. If the PSC is the primary investment instrument and contains dispute resolution and stabilisation provisions, to what extent does the BIT provide additional or overlapping protection that can be invoked independently of the PSC framework?

International arbitral tribunals have generally held that the BIT umbrella clause, which is found in some BITs and which elevates contractual obligations to the status of treaty obligations, can in principle be used to bring contract-based claims under the treaty framework. However, the scope and application of the umbrella clause has been interpreted inconsistently by different tribunals, and the interaction between the PSC dispute resolution clause and the BIT arbitration clause has generated significant jurisprudential controversy.

For Bangladesh, the most important implication of this jurisprudence is that the negotiation of PSC terms and the design of the dispute resolution mechanism must be undertaken with full awareness of the potential interaction with Bangladesh's BIT obligations. The choice of the applicable law in the PSC, which determines whether Bangladesh's domestic law or international law governs the interpretation and enforcement of the contract, has important implications for the interplay between the PSC and the BIT framework. A PSC that specifies international law as the applicable law may in some cases create a more direct pathway for BIT claims than one that specifies domestic law, because it reduces the gap between the contractual and treaty standards.

CHAPTER 10: POLITICAL ECONOMY OF MARITIME ENERGY: THEORIES, CONTROVERSIES, AND REFORM

10.1 Resource Nationalism and the Law of the Sea

Resource nationalism, broadly defined as the tendency of states to assert greater control over their natural resource sectors, typically through nationalisation, increased taxation, or renegotiation of contractual terms, is a recurring phenomenon in the history of the global energy industry and one that is directly relevant to Bangladesh's offshore energy governance. Understanding the theoretical foundations of resource nationalism, and its relationship to the international law frameworks that constrain it, is essential for designing a governance framework that serves Bangladesh's long-term national interests while maintaining the foreign investment climate that offshore development requires.

The academic literature on resource nationalism distinguishes between different forms of the phenomenon. Hard resource nationalism involves the direct appropriation of foreign energy assets without adequate compensation, as occurred in the nationalisation waves of the 1970s in the Middle East and Latin America. Soft resource nationalism involves the use of fiscal, regulatory, and contractual mechanisms to increase the state's share of resource revenues without formal nationalisation, and is the more common form in contemporary practice. Regulatory nationalism involves the imposition of increasingly stringent local content, environmental, and safety requirements that have the practical effect of reducing the economic attractiveness of foreign investment in the energy sector.

From a legal theory perspective, resource nationalism stands in tension with the international law of foreign investment but finds support in the principle of permanent sovereignty over natural resources, affirmed in UN General Assembly Resolution 1803 of 1962 and subsequent resolutions, and reflected in the preamble and provisions of UNCLOS itself. The principle of permanent sovereignty provides a legal framework within which states can justify assertions of control over their offshore energy resources that might otherwise appear to be inconsistent with investment protection obligations. The jurisprudential challenge is to identify the boundary between legitimate exercise of permanent sovereignty and unlawful expropriation, a boundary that has been mapped with considerable effort by investment arbitral tribunals but remains contested and context-specific.

10.2 Political Economy of the Blue Economy: Critical Perspectives

The blue economy concept, as applied to Bangladesh's offshore energy sector, is not politically neutral. It reflects specific choices about the distribution of resource rents, the pace and character of maritime development, and the relationship between the state, foreign capital, and domestic communities. A critical political economy analysis of these choices is essential for any comprehensive legal commentary that aims to serve the public interest rather than simply to rationalise existing policy choices.

Several scholars of the political economy of the blue economy, including those associated with the emerging blue degrowth literature, have argued that the mainstream blue economy concept

reproduces the same structural dynamics as the terrestrial resource economy, with transnational corporations and national elites capturing the majority of resource rents while coastal communities bear the environmental and social costs of development. This argument is contested by those who see the blue economy, if properly governed, as a pathway to inclusive maritime development, but it raises important questions that the governance framework must address.

The gender dimensions of the political economy of offshore energy in Bangladesh are significant and largely overlooked in the standard policy discourse. Women in Bangladesh's coastal communities are disproportionately affected by the environmental impacts of offshore development, through the effects on fisheries productivity and food security, but they have no voice in the governance of offshore energy development. The revenues from offshore energy, if channelled through the general fiscal system, may benefit the national economy, but unless specific allocations are made for coastal community development and gender-responsive programming, the benefits of offshore energy will accrue primarily to the state apparatus and to the economic sectors most directly connected to energy consumption, which are not the sectors that coastal women primarily depend on.

10.3 The Energy Transition and the Stranded Assets Problem

One of the most significant political economy challenges facing Bangladesh's offshore energy governance is the risk that investments in offshore hydrocarbon development will create stranded assets, assets whose economic value is significantly reduced or eliminated by regulatory, technological, or market changes associated with the global energy transition. The International Energy Agency's Net Zero Emissions by 2050 scenario, published in 2021 and updated annually, suggests that no new oil and gas field developments beyond those already approved are needed to meet climate targets consistent with the Paris Agreement's 1.5-degree Celsius limit. This scenario implies that significant new investment in offshore hydrocarbon exploration and development carries a real risk of creating assets whose commercial viability may be compromised by the energy transition before they can be fully recovered.

For Bangladesh, this risk is particularly acute for deep-water blocks, where the development lead times are long, the capital requirements are enormous, and the break-even prices are high. If the transition away from fossil fuels accelerates in the major export markets, and if the global gas price falls as a result of reduced demand or of increased supply from major LNG exporters, the economics of Bangladesh's deep-water gas development could deteriorate rapidly, leaving the state with the costs of failed infrastructure and the environmental liabilities of abandoned wells.

The legal framework for offshore energy governance must explicitly address this stranded assets risk, both by building flexibility into the regulatory framework that allows projects to be suspended or terminated if market conditions change, and by ensuring that PSC terms do not lock Bangladesh into long-term commitments to infrastructure that may have limited value in a decarbonised economy. The decommissioning framework, discussed above, is particularly important in this context: the legal requirement to maintain adequate financial provisions for decommissioning throughout the project's life, regardless of whether the project proceeds to full production, provides protection against the scenario in which an operator abandons an uneconomic project without meeting its environmental obligations.

10.4 OPEC, LNG Markets, and Bangladesh's Strategic Position

Bangladesh's offshore energy development does not occur in a vacuum; it is shaped by the global energy market context, including the behaviour of OPEC and OPEC+, the evolution of the global LNG market, and the strategic energy choices of Bangladesh's major trade partners and neighbours. Understanding this context is essential for evaluating the likely economics of Bangladesh's offshore blocks and for designing a governance framework that is robust to a range of market scenarios.

The global LNG market has undergone extraordinary transformation in recent years, with significant new supply from the United States, Australia, and Qatar, and growing demand from South and Southeast Asian importing countries including Bangladesh itself. Bangladesh currently imports a significant portion of its gas through floating storage and regasification units at Moheshkhali, and this import dependence creates a significant burden on the current account that domestic production would alleviate. However, the global oversupply of LNG that is anticipated through the late 2020s and early 2030s, as new US and Middle Eastern export projects come online, may depress global gas prices and reduce the economic urgency of domestic offshore gas development.

The strategic importance of offshore gas development for Bangladesh's energy security goes beyond simple economics. A domestic gas supply reduces Bangladesh's dependence on volatile international energy markets, provides greater security of supply in the event of geopolitical disruptions, and reduces the country's exposure to foreign exchange risks associated with energy imports. These strategic considerations justify some degree of investment in offshore exploration and development even if the pure economic calculus does not strongly favour it at current market prices, and the legal framework should be designed to support this strategic rationale while maintaining adequate fiscal protection for the state's revenue interests.

CHAPTER 11: COMPARATIVE GOVERNANCE MODELS FOR OFFSHORE ENERGY

11.1 The Norwegian Model: State Capitalism with Environmental Leadership

Norway provides perhaps the most cited model of successful offshore energy governance in the international literature, and its lessons are relevant to Bangladesh despite the enormous differences in geological context, institutional capacity, and economic development level. Norway's success in the North Sea, which generated enormous wealth while maintaining high environmental standards and building one of the world's most respected sovereign wealth funds, reflects the interaction of several legal and institutional features that are instructive for Bangladesh.

The Norwegian model rests on three institutional pillars: a technically competent and politically independent national oil company, Equinor, formerly known as Statoil, that manages the state's commercial interests in offshore production; a dedicated safety and environmental regulator, the

Norwegian Oil and Gas Safety Authority (Petroleumstilsynet), that enforces rigorous technical standards independently of the commercial operations; and a transparent fiscal framework, administered by the Norwegian Petroleum Directorate, that captures a high share of resource rents for the state while maintaining the commercial attractiveness necessary to attract international investment. The separation of commercial and regulatory functions that characterises the Norwegian model stands in contrast to the integrated role of Petrobangla in Bangladesh, and it represents a governance reform that Bangladesh should seriously consider.

Norway's Government Pension Fund Global, which receives and manages the hydrocarbon revenues that the state captures from offshore production, is the world's largest sovereign wealth fund with assets of approximately 1.7 trillion US dollars. The establishment of a Norwegian-style sovereign wealth fund was debated in Bangladesh in the context of the blue economy strategy, but no such institution has yet been created. The legal framework for a sovereign wealth fund, including the rules for capital allocation, investment management, governance, and accountability, should be developed in conjunction with the legal framework for offshore energy governance, to ensure that the revenues from Bangladesh's offshore development are captured and managed in a manner that serves long-term national prosperity rather than short-term fiscal needs.

11.2 The Timor-Leste Model: Revenue Sharing and Intergenerational Equity

Timor-Leste, one of the world's newest states and one that has been almost entirely dependent on offshore oil and gas revenues since independence in 2002, provides a different set of lessons for Bangladesh, focused primarily on the management of resource revenues in conditions of institutional fragility and the challenge of building long-term prosperity from exhaustible resources.

Timor-Leste's Petroleum Fund, established by the Petroleum Fund Law of 2005 and modelled on the Norwegian Government Pension Fund, has been widely praised as an example of sound revenue management in a resource-rich developing country. The Fund receives all petroleum revenues, invests them in a diversified international portfolio, and limits annual withdrawals to the estimated sustainable income of the fund, defined as three percent of fund assets, plus the actual net receipts from the petroleum sector. This framework is designed to ensure intergenerational equity, by preventing current generations from consuming the entirety of the resource wealth at the expense of future generations.

The Timor-Leste model also provides lessons in the PSC design dimension, including the use of production sharing provisions that capture a high share of resource rents for the state while maintaining investor interest, and the incorporation of strong local content requirements that have built domestic industry capacity and employment. The specific PSC terms in Timor-Leste's framework differ from those of Bangladesh in various respects, reflecting different geological conditions and political contexts, but the underlying governance principles are relevant.

The challenges that Timor-Leste has faced in managing the resource transition, as the Sunrise and Bayu-Undan offshore fields approach depletion, are also instructive. The dependence of the Timorese state on petroleum revenues, combined with the slow development of the non-

petroleum economy, has created a fiscal vulnerability that threatens long-term stability. Bangladesh, which has a much more diversified economy and a much larger population than Timor-Leste, is less exposed to this risk, but the principle that offshore energy revenues should be used to build sustainable non-petroleum economic foundations, rather than to fund current government expenditure, is equally applicable.

11.3 The United Kingdom Model: Regulatory Reform and the Energy Transition

The United Kingdom's offshore energy governance framework, developed for the North Sea over five decades and extensively reformed in recent years in response to the energy transition, provides lessons in regulatory evolution and the management of the shift from fossil fuels to renewables in the offshore context.

The UK North Sea Transition Deal of 2021, concluded between the UK government and the offshore oil and gas industry, established a framework for managing the transition from hydrocarbon production to offshore wind and other clean energy technologies in the North Sea, including commitments on greenhouse gas emissions reduction from offshore operations, investment in carbon capture and storage, and the development of offshore hydrogen production. The deal was negotiated against the backdrop of the UK's legally binding commitment to net zero emissions by 2050 and its obligations under the Paris Agreement, and it attempts to balance the continued production of domestic hydrocarbons for energy security with the progressive decarbonisation of the offshore energy sector.

For Bangladesh, the UK experience is instructive in several respects. It demonstrates that the transition from a fossil fuel-dominated offshore energy sector to a clean energy sector is a process that can be managed through negotiated frameworks rather than abrupt regulatory change, reducing the risk of stranded assets and maintaining investor confidence while progressively tightening environmental standards. It also demonstrates the importance of regulatory capacity in managing this transition, with the UK's dedicated offshore energy regulator, the North Sea Transition Authority, playing a central role in developing the technical standards and providing the regulatory guidance that the transition requires.

11.4 The Brazilian Pre-Salt Model: National Champions and Local Content

Brazil's experience with the development of its extraordinarily productive pre-salt deepwater oil fields, discovered in 2006 in the Santos Basin, provides lessons in large-scale deepwater governance that are relevant to Bangladesh's aspirations for deep-water development. The pre-salt fields, which lie beneath a thick layer of salt up to 2,000 metres thick at depths of up to 7,000 metres of water, require technology and capital that Brazil could not initially provide from domestic sources, and the legal framework for their development involved a complex negotiation between the demands of resource nationalism and the need for international technical and financial partnership.

Brazil's local content framework, which requires offshore operators to use specified minimum percentages of locally sourced goods, services, and personnel, has been one of the most extensive and detailed in the world. It has generated significant domestic industrial development

and employment, building a Brazilian offshore equipment manufacturing industry and a skilled domestic offshore workforce. It has also been a source of significant controversy, with international operators complaining that local content requirements increase project costs and contribute to construction delays, and with arguments that overly prescriptive local content rules can in some cases harm rather than help the development of competitive domestic industries.

Bangladesh's approach to local content in the PSC-2023 model is notably weak, as discussed above, and the Brazilian experience demonstrates both the potential benefits of ambitious local content requirements and the governance challenges in designing and implementing them effectively. A reformed framework should incorporate specific local content targets for different phases of offshore operations, from exploration through development and production, with appropriate flexibility mechanisms for cases where domestic supply is unavailable or uncompetitive, and with transparent monitoring and enforcement procedures.

CHAPTER 12: MARINE SCIENTIFIC RESEARCH LAW AND BANGLADESH'S OFFSHORE KNOWLEDGE BASE

12.1 The UNCLOS Framework for Marine Scientific Research

Marine scientific research (MSR) is the systematic investigation of the marine environment and its resources through observation, measurement, sampling, and experimentation. It is the essential knowledge base for the governance of offshore energy, fisheries, biodiversity conservation, and the marine environmental protection that all subsequent chapters of this commentary have addressed. The legal framework for MSR under UNCLOS is governed primarily by Part XIII, which establishes the rights and obligations of states in relation to marine scientific research conducted in their maritime zones and on the high seas.

UNCLOS Article 238 establishes the general right of all states and competent international organisations to conduct marine scientific research. Article 240 establishes the general principles governing the conduct of MSR, including the requirement that it be conducted exclusively for peaceful purposes, with appropriate scientific methods and means compatible with UNCLOS, and that it not unjustifiably interfere with other legitimate uses of the sea. Most importantly for Bangladesh's position as a coastal state, Article 246 establishes that in the EEZ and on the continental shelf, marine scientific research shall be conducted with the consent of the coastal state.

The coastal state's consent jurisdiction over MSR in its EEZ and continental shelf is qualified by an important obligation in Article 246(3), which requires the coastal state, in normal circumstances, to grant its consent for MSR projects by other states or competent international organisations that are undertaken in accordance with the Convention for purely scientific purposes or to increase scientific knowledge of the marine environment for the benefit of all mankind. The expression in normal circumstances has been interpreted as creating a presumption in favour of consent for peaceful scientific research that meets the specified conditions, with the

coastal state bearing the burden of demonstrating that unusual circumstances justify withholding consent.

The interpretation of what constitutes in normal circumstances and what justifies withholding consent has been a source of controversy in the practice of states. Some developing coastal states have used their consent jurisdiction to restrict or delay research projects by developed country scientific institutions, reflecting concerns about the appropriation of scientific data and knowledge from their maritime zones for the benefit of developed states without adequate benefit-sharing. This concern is directly relevant to Bangladesh, which has a significant scientific interest in the marine environment of the Bay of Bengal but lacks the capacity to conduct the sophisticated surveys and research that would fully characterise its marine resources.

12.2 Bangladesh's Marine Scientific Research Capacity and Governance Gaps

Bangladesh's capacity for marine scientific research is severely limited by resource and institutional constraints. The principal institutions engaged in marine scientific research in Bangladesh include the Bangladesh Oceanographic Research Institute (BORI), established in 2016 at Cox's Bazar, the Institute of Marine Sciences of the University of Chittagong, and the Bangladesh Fisheries Research Institute. These institutions have made valuable contributions to the knowledge of Bangladesh's marine environment, but their capacity is modest relative to the scale of the research needed to inform the comprehensive governance of a 118,813-square-kilometre maritime zone.

The 2021 Amendment to the Territorial Waters and Maritime Zones Act includes provisions on the consent regime for marine scientific research by foreign states and international organisations, implementing Bangladesh's rights under UNCLOS Part XIII. However, the procedures for consent application, review, and decision-making are not fully specified in the Act or in administrative regulations, and there is no clear institutional designation of the authority responsible for processing consent applications. This administrative gap creates uncertainty for foreign research institutions seeking to conduct legitimate scientific work in Bangladesh's maritime zones and may inadvertently impede the research that Bangladesh needs to inform its own maritime governance.

The data governance framework for marine scientific research in Bangladesh's zones is also inadequate. When foreign research institutions conduct research with Bangladesh's consent, there is no clear legal requirement for the sharing of data and results with Bangladeshi institutions, no framework for the joint training of Bangladeshi researchers, and no mechanism for building the domestic research capacity that would eventually allow Bangladesh to conduct the research itself. A reformed MSR governance framework should include specific provisions on data sharing, capacity building, and the equitable benefit of research results, consistent with the emerging framework of the BBNJ Agreement on marine biological diversity.

12.3 The BBNJ Agreement and Marine Scientific Research

The Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement), adopted in June 2023, includes

provisions on marine scientific research that have implications for Bangladesh's domestic framework. Specifically, the BBNJ Agreement establishes rules on the conduct of research in areas beyond national jurisdiction and on the sharing of benefits from marine genetic resources found in those areas.

For Bangladesh, the BBNJ Agreement's benefit-sharing framework has the potential to provide capacity-building support and financial resources for marine scientific research. As a developing coastal state party to UNCLOS and a signatory of the BBNJ Agreement, Bangladesh is entitled to receive technical and scientific assistance through the agreement's capacity-building and technology transfer provisions. Bangladesh should actively engage with the BBNJ framework to access these benefits and to advocate for provisions that serve the interests of developing coastal states in the governance of scientific research in the Bay of Bengal and the Indian Ocean.

The interface between the BBNJ Agreement's framework for areas beyond national jurisdiction and Bangladesh's own marine scientific research governance in its national maritime zones creates important legal questions about the coordination of research governance across the boundary between national and international waters. A comprehensive MSR governance framework for Bangladesh should address this interface, ensuring coherence between the domestic consent regime and the international framework that applies to research in adjacent areas.

12.4 Hydrographic Surveys, Nautical Charts, and Legal Governance

Hydrographic surveying, specifically the measurement of the depth and configuration of the seabed, is a foundational element of maritime governance that has direct implications for the legal framework governing shipping, offshore energy, fisheries, and environmental protection. Bangladesh's hydrographic capacity is currently exercised primarily by the Bangladesh Navy through its Hydrographic Department, which maintains the official nautical charts for Bangladesh's waters.

The quality and currency of Bangladesh's hydrographic data are significant concerns. The delta coast of Bangladesh changes continuously as sediment is deposited, eroded, and redistributed by tidal and river action, and the nautical charts must be regularly updated to reflect these changes. Outdated charts create navigational hazards, particularly in the approaches to the Port of Chittagong and in the estuarine channels of the delta, and they undermine the legal accuracy of the baseline from which Bangladesh's maritime zones are measured.

Bangladesh is a member of the International Hydrographic Organisation, whose standards for hydrographic surveying and nautical charting provide the international framework for this work. A reformed maritime governance framework should include specific legal provisions establishing the responsibility for hydrographic surveying, the standard and currency requirements for nautical charts, the legal status of hydrographic data in maritime boundary determination, and the funding framework for hydrographic operations.

CHAPTER 13: THE COMPREHENSIVE REFORM AGENDA FOR OFFSHORE ENERGY GOVERNANCE

13.1 The Case for an Offshore Petroleum Activities Act

The analysis in the preceding twelve chapters has established a clear and compelling case for the enactment of a comprehensive Offshore Petroleum Activities Act as the centrepiece of Bangladesh's offshore energy governance reform. The current framework, based on the Petrobangla Ordinance of 1985, the general environmental legislation, and contract-based regulation through PSCs, is fundamentally inadequate for the governance of deep-water hydrocarbon operations whose technical complexity, environmental risks, and fiscal significance dwarf anything Bangladesh has previously managed.

The Offshore Petroleum Activities Act should establish the following core elements of the governance framework.

A comprehensive licensing and approval framework that clearly specifies the authority for awarding offshore exploration and production licences, the criteria and procedures for their award, the conditions attached to licences, the procedures for renewal, suspension, and revocation, and the rights and obligations of licensees in relation to the state, Petrobangla, and third parties.

A detailed safety management framework that requires all offshore operators to develop and implement a safety management system that meets international standards, specifically the IAOGC's process safety framework and the standards developed by the NORSOK system and adapted to the Bangladeshi context. The Act should require independent verification of safety management systems by approved third-party auditors, mandatory reporting of significant incidents and near-misses, and the investigation of incidents by an independent body with powers to compel disclosure.

A comprehensive environmental governance framework that implements Bangladesh's obligations under UNCLOS Part XII, MARPOL, the OPRC Convention, the Nairobi Convention, and the 2024 ITLOS Advisory Opinion. This framework should include specific standards for drilling discharges, produced water management, flaring and venting restrictions, oil spill response preparedness, greenhouse gas emissions reporting, and the protection of sensitive marine habitats including coral reefs and seagrass beds.

A decommissioning regime that requires all offshore operators to prepare and maintain a decommissioning plan from the early stages of development, to establish and maintain financial provisions adequate to cover the full costs of decommissioning, and to conduct decommissioning in accordance with the standards established by the Act and approved by the regulatory authority. The regime should specify the procedures for the approval of alternative uses for decommissioned infrastructure, including artificial reefs, and should address the liability of former operators for decommissioning obligations that arise after contract termination.

A production measurement and reporting framework that requires all offshore operators to maintain accurate records of production volumes, energy content, and flare and vent quantities, to report this data to the regulatory authority in a standardised format, and to make summary production data publicly available in accordance with EITI transparency standards.

A fiscal governance framework that specifies the legal basis for the state's fiscal take from offshore operations, the procedures for the calculation and verification of cost recovery accounts and profit sharing calculations, the penalties for misreporting, and the arrangements for independent audit of operator accounts. This framework should be consistent with the EITI framework and should require the public disclosure of PSC terms and financial results at a level of detail consistent with maintaining investor confidence while ensuring public accountability.

A dispute resolution framework that specifies the procedures for the resolution of disputes between the regulatory authority and licensees, including administrative appeal procedures, judicial review rights, and the conditions under which international arbitration may be invoked. The framework should ensure that Bangladesh has effective institutional capacity to prosecute and defend international arbitration proceedings and should address the interaction between the PSC dispute resolution clause and the applicable BIT framework.

13.2 Institutional Reform: Separating Regulatory and Commercial Functions

The most important institutional reform required for Bangladesh's offshore energy governance is the separation of the regulatory and commercial functions that are currently combined in Petrobangla. This reform requires the establishment of a dedicated Offshore Petroleum Regulatory Authority, separate from Petrobangla, with the mandate, independence, technical capacity, and funding to carry out the regulatory functions of offshore energy governance.

The Offshore Petroleum Regulatory Authority should be established as a statutory body, with a governing board that includes technical experts, independent members, and representatives of civil society and the affected coastal communities. Its budget should be funded through regulatory fees paid by licensees, ensuring its financial independence from the annual appropriations process and reducing its vulnerability to political interference. Its staff should include petroleum engineers, environmental scientists, economists, and lawyers with specialist expertise in offshore energy regulation, supplemented by access to international technical consultants where specialist capacity is temporarily unavailable domestically.

Petrobangla should be restructured to focus exclusively on its commercial mandate, specifically the management of the state's commercial interest in offshore hydrocarbon production through its participation in PSCs and through the development of BAPEX, the national upstream petroleum company. This commercial focus would allow Petrobangla to operate more effectively as a commercial entity, with a governance structure appropriate for a commercially oriented state enterprise including a professional board, transparent reporting to shareholders (effectively the state), and commercial performance targets.

The Ministry of Power, Energy and Mineral Resources should retain the policymaking function, setting the overall strategic framework for offshore energy development, determining the terms

of offshore acreage offerings, and representing Bangladesh in international energy governance forums. Its role should be clearly distinguished from both the commercial function of Petrobangla and the regulatory function of the Offshore Petroleum Regulatory Authority, with clear lines of accountability and no role in day-to-day commercial or regulatory decisions.

13.3 The Offshore Energy Law Reform and its Relationship to the Blue Economy Strategy

The Offshore Petroleum Activities Act and the associated institutional reforms should be explicitly positioned within the broader blue economy governance reform agenda. The blue economy strategy's multiple objectives, including sustainable fisheries development, environmental protection, maritime transport development, and the development of offshore renewable energy, intersect with the governance of offshore hydrocarbons in multiple ways that require an integrated approach.

The marine spatial planning framework proposed in Part Nine of this commentary provides the geographic framework within which these intersections can be managed. The marine spatial plan must address the allocation of sea space among competing uses, including offshore hydrocarbon operations, offshore renewable energy development, fishing areas, shipping lanes, marine protected areas, and other uses. The legal framework for the marine spatial plan must have sufficient authority to constrain offshore energy licensing decisions, ensuring that blocks are not offered in areas where other uses of the sea space have priority under the plan.

The environmental governance framework of the Offshore Petroleum Activities Act must be integrated with the broader environmental governance framework for Bangladesh's maritime zones, including the fisheries environmental provisions of the reformed Marine Fisheries Act proposed in Part Nine and the general marine environmental governance provisions of the reformed Territorial Waters and Maritime Zones Act. This integration requires both legislative coordination and institutional coordination, with clear protocols for the interaction between the Offshore Petroleum Regulatory Authority, the Department of Environment, the Department of Fisheries, and the Coast Guard.

13.4 A Blue Economy Sovereign Wealth Fund: Design Principles and Legal Framework

The establishment of a Blue Economy Sovereign Wealth Fund, to receive and manage the revenues that Bangladesh captures from offshore energy development and other maritime resource exploitation, is one of the most important long-term governance recommendations of this commentary. Without a dedicated fund to capture and manage these revenues, there is a real risk that offshore energy revenues will be absorbed into the general budget and consumed by current government expenditure, rather than being invested in long-term productive assets that benefit future generations.

The legal framework for the fund should establish it as an independent statutory institution, separate from both the Ministry of Finance and the Central Bank, with a governing board that includes financial experts, independent members, and representatives of civil society. The investment mandate should specify that fund assets are invested in a diversified international portfolio of long-term productive assets, with a primary objective of preserving and increasing

the real value of the fund over time. Annual withdrawals should be limited to the estimated sustainable income of the fund, defined in a manner consistent with the Norwegian and Timor-Leste models, and any excess over this limit should require specific parliamentary approval.

The fund's governance framework should include rigorous transparency and accountability provisions, including an obligation to publish an annual report that discloses all receipts, investments, and withdrawals, to subject the fund to independent audit, and to report annually to parliament on the fund's performance and management. These transparency provisions would build public confidence in the fund and demonstrate Bangladesh's commitment to the responsible management of its maritime natural resources for the benefit of all its people, present and future.

13.5 Implementation Priorities and the Political Economy of Offshore Energy Reform

The comprehensive offshore energy governance reform proposed in this Part faces significant political economy challenges that must be honestly acknowledged. The vested interests in the current framework, including Petrobangla's institutional interests in maintaining its combined regulatory and commercial roles, the energy ministry's interests in retaining control over commercial decisions, and the interests of international oil companies in maintaining contractual arrangements that give them significant influence over the governance framework, are all potential sources of resistance to reform.

The political economy of offshore energy reform in Bangladesh is also shaped by the broader political context, including the relationship between the government and the opposition, the role of civil society and the media in holding the government accountable, and the influence of international development partners and the international financial institutions that have an interest in the design of Bangladesh's energy governance framework. The IMF, the World Bank, and the Asian Development Bank have all provided technical assistance and policy advice to Bangladesh on energy governance, and their continued engagement will be important for maintaining the momentum of reform.

The recommended approach to implementation is a phased programme, consistent with the approach proposed for fisheries governance reform in Part Nine. In the first phase, covering the period to 2027, the priority should be the enactment of the Offshore Petroleum Activities Act, the establishment of the Offshore Petroleum Regulatory Authority, and the development of the specific regulations and standards required for the governance of the operations contemplated in the 2024 bidding round. This phase should also include the development of a comprehensive environmental baseline survey of the offshore areas included in the bidding round, to provide the scientific foundation for environmental impact assessment and monitoring requirements.

In the second phase, covering 2027 to 2030, the priority should be the implementation of the decommissioning regime, the establishment of the Blue Economy Sovereign Wealth Fund, the development of the local content framework, and the integration of offshore energy governance with the marine spatial plan and the reformed fisheries governance framework. This phase should also include Bangladesh's formal ratification of and preparation for implementation of the BBNJ Agreement, and the conclusion of specific bilateral agreements with India and Myanmar

on the governance of offshore operations in areas adjacent to or affected by the grey area problem.

In the third phase, from 2030 onward, the priority should be the development of the offshore renewable energy legal framework, the expansion of marine scientific research capacity through targeted investment in BORI and the University of Chittagong's marine sciences programme, and the full implementation of Bangladesh's EITI commitments in the offshore energy context.

CHAPTER 14: JURISPRUDENTIAL REFLECTIONS ON MARITIME ENERGY LAW

14.1 The Philosophy of Natural Resource Ownership: Stewardship versus Exploitation

The philosophical foundation of the state's authority over offshore energy resources can be understood through two competing frameworks: the exploitation paradigm, which treats natural resources as assets to be converted into economic value as rapidly and completely as possible, and the stewardship paradigm, which treats them as a trust held for present and future generations that must be managed in accordance with principles of sustainability, intergenerational equity, and ecological integrity.

The exploitation paradigm is reflected in the historical trajectory of global offshore energy development, which has typically prioritised the maximisation of short-term resource extraction over conservation, environmental protection, and equitable distribution. The stewardship paradigm is reflected in the philosophical traditions of trusteeship in constitutional law, in the common heritage of mankind concept that Arvid Pardo contributed to the UNCLOS framework, and in the emerging body of constitutional natural resource law that increasingly treats natural resources as a public trust that governments administer on behalf of present and future citizens.

The Philippine Oposa v. Factoran case of 1993, in which the Philippine Supreme Court recognised the right of future generations to enforce the state's constitutional obligation to protect the environment, is a landmark in the jurisprudential development of the stewardship paradigm. The New Zealand Environmental Court's application of Te Tiriti o Waitangi principles to the governance of offshore resources and its recognition of tikanga Maori in the coastal marine area management represent a different but equally significant jurisprudential approach that grounds resource stewardship in specific cultural and ethical traditions rather than in abstract constitutional principles.

For Bangladesh, the constitutional and jurisprudential foundation for the stewardship approach to maritime energy governance can be found in the Fundamental Principles of State Policy in the Constitution, particularly the principles of economic emancipation and social justice, and in the Bangladesh Supreme Court's emerging jurisprudence on environmental rights. The Public Interest Environmental Litigation cases decided by the Bangladesh Supreme Court in recent decades have established that environmental protection is a constitutional obligation of the state and that affected communities and civil society organisations have standing to enforce this obligation through public interest litigation. Extending this jurisprudential framework to the

offshore energy context would provide a constitutional foundation for the stewardship approach to offshore resource management.

14.2 The Common Heritage Principle and its Philosophical Development

The common heritage of mankind principle, which Arvid Pardo articulated in his famous 1967 speech to the UN General Assembly and which was incorporated in the UNCLOS framework as the governing principle for the Area, is one of the most philosophically rich and practically important concepts in the law of the sea. Its philosophical content has been elaborated by scholars of international law, philosophy, and political economy over the past five decades, and it continues to generate debate and creative jurisprudential development.

The common heritage principle contains several distinct substantive elements that are analytically separable even if they are typically presented as a unified concept. First, it contains a non-appropriation element: the Area and its resources cannot be claimed or appropriated by any state or person. Second, it contains a management element: the exploitation of the Area's resources must be managed by a representative international body, the ISA, on behalf of mankind as a whole. Third, it contains a sharing element: the benefits from the exploitation of the Area's resources must be equitably shared among all states, with particular attention to the needs of developing states. Fourth, it contains a preservation element: the Area must be reserved for peaceful purposes and its scientific and environmental integrity must be protected. Fifth, it contains a future generations element: the rights of future generations must be protected in the governance of the Area's resources.

The philosophical foundations of the common heritage principle draw on a wide range of intellectual traditions. The natural law tradition, specifically the Grotian argument that some resources are by nature incapable of private appropriation and belong to all, provides one strand of the philosophical argument. The social contract tradition, particularly Rousseau's argument that natural resources are a common inheritance whose benefits should be shared equitably rather than appropriated by the powerful, provides another. The stewardship tradition, drawing on both secular and religious concepts of the human responsibility to preserve the natural world for future generations, provides a third. And the post-colonial tradition, with its concern for the redress of the distributive injustices of the colonial period, provides a fourth.

The political philosophy of John Rawls, while not specifically addressed to the law of the sea, provides a useful framework for evaluating the common heritage principle. Rawls's difference principle, from A Theory of Justice published in 1971, holds that inequalities in the distribution of social goods are just only if they benefit the least advantaged members of society. Applied to the common heritage principle, this would support the strongest possible benefit-sharing provisions in the ISA framework, ensuring that the exploitation of the deep seabed's mineral resources provides maximum benefit to the world's poorest states rather than primarily enriching the technologically advanced states that are best positioned to conduct the exploitation.

The intergenerational dimension of the common heritage principle connects to the philosophical work of Edith Brown Weiss, whose framework of intergenerational equity, developed in In Fairness to Future Generations published in 1989, proposes that each generation holds the natural

and cultural heritage of the earth as a trustee or planetary guardian for future generations. This trusteeship concept, applied to the governance of the deep seabed, implies obligations to preserve the biological diversity of the deep-sea environment, to prevent irreversible damage from mining operations, and to maintain the option value of the deep sea for future uses including marine biotechnology that are not yet fully understood.

14.3 The Theory of Regulatory State and Offshore Energy Governance

The theory of the regulatory state, as developed in the comparative public law and governance literature by scholars including Giandomenico Majone and Colin Scott, offers a theoretical framework for understanding the institutional architecture of offshore energy governance that is relevant to Bangladesh's reform agenda. The regulatory state model, associated with the deregulation and privatisation movements of the 1980s and 1990s and with the development of independent regulatory agencies in a variety of sectors, proposes a separation of the state's functions as owner and commercial operator of public utilities and natural resources from its function as regulator of private actors in these sectors.

Applied to Bangladesh's offshore energy context, the regulatory state model suggests the institutional reforms discussed in Chapter 13: the separation of Petrobangla's commercial function from the regulatory function of an independent Offshore Petroleum Regulatory Authority. This separation is designed to address the conflict of interest that arises when the same institution is both a commercial party in PSC negotiations and the regulator responsible for enforcing the terms of those contracts.

The theoretical critique of the regulatory state model, associated most prominently with the work of scholars in the public interest tradition including Mariana Mazzucato, challenges the assumption that independent regulatory agencies operating at arm's length from the state necessarily serve the public interest more effectively than more integrated state institutions. Mazzucato's work on the entrepreneurial state argues that states have historically played an active and often decisive role in driving technological innovation and economic development through direct state investment and commercially engaged state enterprises, and that the retreat of the state from commercial involvement in key sectors in favour of regulation and subsidy has often failed to serve the public interest. This argument has relevance to the offshore energy context in Bangladesh, where Petrobangla's commercial engagement in PSCs has historically been one of the mechanisms through which Bangladesh has maintained control over the pace and conditions of offshore development.

The resolution of this theoretical tension in the Bangladesh context does not require a choice between pure regulation and pure state commercial engagement. The recommended model of a reformed Petrobangla focused exclusively on commercial operations, supported by a well-resourced independent regulatory authority, represents a balance between the entrepreneurial state model and the regulatory state model that is adapted to Bangladesh's specific institutional capacity and development context. This balance may need to be adjusted over time as institutional capacity develops and as the scale and complexity of offshore operations grows.

14.4 Legal Positivism, International Custom, and the Governance of Offshore Energy

The legal positivist analysis of offshore energy governance addresses the sources and authority of the legal norms that govern Bangladesh's offshore operations. As a matter of formal law, Bangladesh's offshore energy governance is determined by the interaction of its constitutional provisions, its enabling legislation including the Petrobangla Ordinance, the contractual terms of its PSCs, the requirements of UNCLOS and associated international conventions, and the developing customary international law of the sea.

The relationship between international customary law and the UNCLOS treaty framework in the offshore energy context raises important jurisprudential questions. UNCLOS is widely regarded as reflecting or codifying customary international law in many of its provisions, but the specific provisions on the EEZ, the continental shelf, and the common heritage of mankind went beyond the pre-existing customary law at the time of UNCLOS's adoption and must be understood as treaty-created law rather than codification of custom. The status of these provisions vis-a-vis states that have not ratified UNCLOS, including most notably the United States, is therefore more complex than the conventional characterisation of UNCLOS as the constitution of the oceans might suggest.

For Bangladesh, which has ratified UNCLOS, the question of customary international law is relevant primarily in the context of disputes with states that have not ratified or whose positions on specific UNCLOS provisions are contested. The governance of Bangladesh's outer continental shelf, for example, involves the application of Article 76's criteria for the outer limit, which are treaty provisions rather than customary law. The validity of Bangladesh's outer continental shelf claim as against states that challenge the scope of the continental shelf entitlement depends on whether the relevant Article 76 provisions have crystallised into custom, a question that has not been definitively resolved in international jurisprudence.

The positivist analysis of the common heritage principle raises particularly interesting questions. The principle was incorporated in Part XI of UNCLOS as a treaty obligation, but it was also articulated as a principle of customary international law and even as a principle of jus cogens in the UNGA Declaration of Principles of 1970. The extent to which the common heritage principle binds states as a matter of customary law, beyond its specific treaty expression in UNCLOS, is a matter of ongoing scholarly debate, and it has practical significance for the governance of the US executive order's deep-sea mining authorisation outside the ISA framework, as discussed in Chapter 7.

14.5 Feminist Jurisprudence and the Offshore Energy Law Reform

Feminist jurisprudence, as applied to the law of the sea and specifically to the governance of offshore energy, challenges the assumption that the legal frameworks discussed in this Part are gender-neutral and universally applicable. The feminist legal critique, developed in the tradition of scholars including Hilary Charlesworth and Christine Chinkin in the international law context, argues that the dominant frameworks of international law, including the law of the sea, have been developed primarily by and for male-dominated institutions and reflect the priorities and perspectives of those institutions rather than the full range of human experience and interest.

Applied to offshore energy governance in Bangladesh, the feminist jurisprudential critique draws attention to the gendered dimensions of the impacts and benefits of offshore development that the standard technical legal analysis tends to overlook. The women of Bangladesh's coastal fishing communities, who process the catch, manage household finances, and maintain the social networks that sustain community resilience, will be disproportionately affected by the environmental impacts of offshore development on fisheries productivity. Yet they have no voice in the governance of the offshore energy sector, in the design of PSC terms, in the allocation of fiscal revenues, or in the environmental impact assessment process for offshore projects.

A feminist approach to offshore energy law reform in Bangladesh would require not merely the formal inclusion of women in governance bodies, though that is certainly necessary, but a substantive reorientation of the governance framework to ensure that the full range of impacts on women's lives and livelihoods is systematically assessed, that women's traditional ecological knowledge of the coastal marine environment is incorporated into environmental baseline studies, and that the fiscal benefits of offshore development are allocated in a manner that specifically addresses women's economic empowerment in coastal communities. These requirements are not merely aspirational; they can be implemented through specific legal provisions in the Offshore Petroleum Activities Act, in the environmental impact assessment regulations, and in the fiscal framework for offshore revenues.

14.6 Towards a Bangladesh Maritime Energy Jurisprudence: Synthesis and Vision

The preceding jurisprudential reflections, drawing on natural law theory, positivism, feminist jurisprudence, the theory of the regulatory state, and the philosophical development of the common heritage principle, converge on a common vision for Bangladesh's maritime energy governance: a vision of the sea's resources as a trust held for present and future generations, managed through accountable and transparent institutions under a legal framework that captures the maximum benefit for the Bangladeshi people while upholding the highest environmental and safety standards, contributing to the regional and global governance of the Bay of Bengal, and fulfilling Bangladesh's obligations under international law.

This vision is demanding, and it stands in some tension with the short-term economic pressures and political constraints that will inevitably shape the implementation of any governance reform. But it is achievable, and it is grounded in the legal obligations that Bangladesh has already assumed through its ratification of UNCLOS, the OPRC Convention, the MARPOL Convention, the Paris Agreement, and the other international instruments addressed in this commentary. The task of implementing this vision through a comprehensive Offshore Petroleum Activities Act, a reformed institutional framework, a transparent fiscal architecture, and a legally anchored benefit-sharing framework is the central challenge of Bangladesh's maritime energy governance in the coming decade.

The Bay of Bengal's energy resources, whether hydrocarbons or the renewable energy of wind, wave, and current, are among the most significant national assets that Bangladesh possesses. They represent the potential to transform the nation's energy security, its fiscal position, and its economic development trajectory, and to do so in a manner that, if governed with wisdom and

accountability, can benefit all Bangladeshis, including the coastal communities who live closest to the sea and who have historically benefited least from the exploitation of maritime resources.

The law's task in this context is not merely technical: it is not only to establish the rules for the conduct of offshore operations, the terms of production sharing, and the procedures for regulatory enforcement. It is also philosophical and political: to articulate the values of stewardship, equity, and sustainability that should animate the governance of these resources, to create the institutional architecture through which these values can be realised in practice, and to ensure that the voice of the Bangladeshi people, including the women of coastal communities whose lives are most directly affected by the condition of the sea, is heard and respected in the governance of their maritime heritage.

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END OF PART TEN

This Part forms the central chapter of the twenty-part commentary. Part Eleven will address maritime transport law, port governance, the legal framework for shipbuilding and ship recycling, and the emerging framework of maritime labour law in Bangladesh, with particular attention to the Matarbari deep-sea port development and the BIMSTEC Agreement on Maritime Transport Cooperation ratified in 2025.

PART ELEVEN

THE ARCHITECTURE OF MARINE ENVIRONMENTAL PROTECTION IN INTERNATIONAL LAW AND THE EXPANDING OBLIGATIONS OF BANGLADESH: CLIMATE JUSTICE, OCEAN GOVERNANCE, POLLUTION CONVENTIONS, AND THE IMPERATIVE OF LEGISLATIVE REFORM

A COMMENTARY ON THE JURISPRUDENTIAL REVOLUTION IN OCEAN ENVIRONMENTAL LAW, THE LANDMARK ADVISORY OPINIONS OF 2024 AND 2025, THE BBNJ AGREEMENT, SEA-LEVEL RISE AND STATEHOOD, THE SUNDARBANS AS A LEGAL CASE STUDY, MARINE SPATIAL PLANNING, SHIP RECYCLING, AND THE COMPREHENSIVE REFORM OF BANGLADESH'S MARINE ENVIRONMENTAL LEGAL FRAMEWORK

PREFACE TO PART ELEVEN

The relationship between the law of the sea and the law of the environment was, for most of the twentieth century, one of uneasy coexistence. Maritime law was understood principally as a body of rules governing navigation, commerce, resource extraction, and the allocation of jurisdictional authority among states over ocean spaces. Environmental law, in its modern form, emerged as a distinct discipline only from the late 1960s onward, catalysed by a series of ecological disasters, scientific revelations about the limits of natural systems, and a profound shift in public consciousness about the relationship between human civilisation and the natural world. The Stockholm Conference of 1972, the Brundtland Commission Report of 1987, and the Rio Earth Summit of 1992 each constituted landmark moments in the development of an international environmental legal order. Yet the integration of this emerging environmental legal order with the established architecture of maritime law was slow, contested, and incomplete.

Part XII of UNCLOS, adopted in 1982, represented the first comprehensive attempt to embed environmental obligations within the foundational charter of ocean governance. It imposed on all states parties a positive duty to protect and preserve the marine environment and established a framework of specific obligations relating to pollution prevention, enforcement, and cooperation that was unprecedented in its scope and ambition. But the environmental provisions of UNCLOS were, by the standards of subsequent legal development, embryonic. They established principles and erected scaffolding; they did not erect the building. The substantive content of marine environmental obligations has been elaborated over the four decades since UNCLOS was adopted through a combination of specialised conventions, decisions of international courts and tribunals, soft law instruments, and the evolving practice of states.

The year 2024 marked a jurisprudential watershed in this process of elaboration. The Advisory Opinion delivered by the International Tribunal for the Law of the Sea on 21 May 2024, in response to a request from the Commission of Small Island States on Climate Change and International Law, crossed a threshold that legal scholars had long anticipated and that advocates for climate justice had worked for years to achieve. The Tribunal confirmed, with legal authority rooted in the express text of UNCLOS, that anthropogenic greenhouse gas emissions absorbed by the ocean constitute marine pollution within the meaning of the Convention's definition in Article 1(1)(4), and that states parties accordingly bear due diligence obligations of a stringent character to prevent, reduce, and control such pollution. This determination did not merely add climate change to the list of maritime law concerns; it restructured the entire conceptual architecture of the relationship between ocean governance and climate governance, creating a legal bridge between the most comprehensive treaty on ocean use ever adopted and the most urgent environmental crisis in human history.

The Inter-American Court of Human Rights issued its Advisory Opinion on Climate Emergency and Human Rights on 3 July 2025, weaving ocean protection into the fabric of human rights obligations and confirming that the degradation of marine ecosystems impairs the rights to life, health, and a healthy environment that are guaranteed by the American Convention on Human Rights and applicable principles of general international law. Twenty days later, on 23 July 2025, the International Court of Justice delivered its own Advisory Opinion on the Obligations of States in Respect of Climate Change, affirming ITLOS's principal findings, extending their reach into the domain of general international law, and identifying obligations erga omnes partes in the climate context. Together, these three opinions form what has come to be described in the emerging scholarship as a consultative triangle of climate law, a tripartite judicial architecture that integrates the law of the sea, general international law, and human rights law into a coherent and mutually reinforcing framework of state obligation in the face of the climate emergency.

For Bangladesh, a country that is among the most severely affected by the consequences of anthropogenic climate change, a country whose coastline is eroding, whose rivers are becoming saline, whose cyclones are intensifying, and whose citizens are already being displaced by climate impacts, these developments represent both a vindication and a challenge. They are a vindication of Bangladesh's decades-long international advocacy for climate justice and for the legal recognition of climate loss and damage as a matter of international legal obligation. They are a challenge because, as a state party to UNCLOS, Bangladesh now bears specific and legally defined obligations regarding greenhouse gas emissions, marine environmental protection,

cooperation, and environmental impact assessment, obligations that its current domestic legislative framework does not adequately address.

Part Eleven provides a comprehensive commentary on the architecture of marine environmental law as it applies to Bangladesh, tracing its philosophical foundations, examining its principal institutional expressions in international law, analysing the revolutionary implications of the 2024 and 2025 advisory opinions, addressing specific dimensions of Bangladesh's marine environmental situation including the Sundarbans, sea-level rise and its implications for maritime jurisdiction, the ship recycling industry, marine plastic pollution, and ocean acidification, and proposing a comprehensive framework for legislative and institutional reform. The analysis proceeds through the full range of jurisprudential, philosophical, political, historical, and technical dimensions that characterise this commentary as a whole, and it does not shy away from the controversies, the gaps, the structural inequities, and the political difficulties that define this field.

CHAPTER 1: THE PHILOSOPHICAL AND JURISPRUDENTIAL FOUNDATIONS OF INTERNATIONAL MARINE ENVIRONMENTAL LAW

1.1 From Exploitation to Conservation: The Intellectual History of Marine Environmental Law

The intellectual history of marine environmental law is not, as is sometimes implied in textbooks, simply a story of progressive enlightenment, a linear narrative in which the human understanding of the ocean's vulnerability gradually overcame the utilitarian impulse to exploit it. It is a more complex and conflicted story, in which scientific discovery, political economy, philosophical innovation, catastrophic environmental events, and the advocacy of social movements have interacted in ways that are neither linear nor inevitable.

The classical Roman doctrine of res communis, which characterised the sea as a thing common to all and incapable of private appropriation, contained within it the germ of an environmental intuition, the recognition that the sea belongs not to any individual or state but to humanity as a whole, and that its use must therefore be governed by principles that respect its inherent character. But this intuition remained latent in the res communis doctrine; the Roman jurists who articulated it were not environmental philosophers but property lawyers, and their concern was with the allocation of legal entitlements rather than with the conservation of natural systems.

Hugo Grotius, whose Mare Liberum of 1609 remains the foundational text of modern maritime law, grounded the freedom of the seas in an argument that was simultaneously philosophical and ecological, though the ecological dimension was largely instrumental. Grotius argued that the sea was inexhaustible, that fish could not be depleted by the catching activities of any nation, and that the ocean was therefore unlike land territory in that its use by one party did not diminish its availability to others. This argument from inexhaustibility served Grotius's immediate purpose, which was to deny the Portuguese claim to exclusive maritime sovereignty, but it also embedded in the foundation of maritime law an assumption about the limitlessness of ocean resources that

would prove to be profoundly wrong and that would have to be systematically dismantled by the environmental law movement of the twentieth century.

The dismantling of the Grotian assumption of ocean inexhaustibility took place in several stages, each marked by a combination of scientific evidence and political crisis. The first significant challenge came in the area of fisheries. By the mid-nineteenth century, there was growing concern among biologists and fisheries scientists that the intensive exploitation of certain fish stocks was causing their depletion. Thomas Henry Huxley, the Victorian biologist, famously dismissed these concerns in his address to the International Fisheries Exhibition of 1883, arguing that the sea's fisheries were inexhaustible and that all attempts at regulation were misguided. But the evidence of depletion accumulated, and by the early twentieth century the scientific consensus had shifted decisively toward the recognition that fish stocks could be, and in many cases were being, depleted by human fishing activity.

The second stage of the dismantling of the inexhaustibility assumption came with the recognition of marine pollution as a systematic problem. The development of the modern chemical industry, the growth of urban coastal populations, and the explosion of maritime petroleum transport all contributed to a dramatic increase in the volume of pollutants discharged into the sea. The Torrey Canyon disaster of 1967, in which a supertanker carrying 119,000 tonnes of crude oil foundered off the coast of Cornwall and caused massive environmental damage to the coasts of England and France, was a galvanising event that demonstrated in the most vivid possible terms the capacity of human industrial activity to cause irreversible harm to the marine environment. The catastrophe triggered an international legal response that led ultimately to the adoption of the International Convention on Civil Liability for Oil Pollution Damage in 1969 and laid the groundwork for the MARPOL Convention of 1973.

The third stage, which is the defining challenge of the present era, is the recognition of climate change as the most comprehensive and most dangerous form of marine pollution. The ocean absorbs approximately ninety percent of the excess heat trapped by atmospheric greenhouse gas emissions and approximately thirty percent of the carbon dioxide emitted by human activities. This absorption, while moderating the atmospheric effects of climate change, has catastrophic consequences for the ocean itself, including acidification, warming, deoxygenation, disruption of thermohaline circulation, and sea-level rise. The recognition that human emissions of greenhouse gases are, in effect, polluting the ocean on a planetary scale represents the most far-reaching development in the intellectual history of marine environmental law, and it is the development that the 2024 ITLOS Advisory Opinion has now formally incorporated into the legal architecture of the law of the sea.

1.2 Anthropocentrism, Ecocentrism, and the Rights of the Ocean

The philosophical debate between anthropocentrism and ecocentrism is among the most fundamental in environmental ethics, and it has direct implications for the design and interpretation of marine environmental law. Anthropocentrism, the view that moral value is centred on human beings and their interests, underpins the dominant framework of international environmental law, including the environmental provisions of UNCLOS. The obligation to protect the marine environment is grounded, on this view, in the value of the marine environment

to human beings, including its ecological services, its food production, its recreational and aesthetic value, and its significance for the livelihoods of coastal communities. The marine environment is protected not because it has inherent value as a natural system but because it is valuable to humans.

The ecocentric alternative, associated with philosophers including Arne Naess, whose deep ecology movement originated in the 1970s, Holmes Rolston III, who developed a comprehensive theory of the intrinsic value of natural systems, and Paul Taylor, whose respect for nature ethic extended moral consideration to all living organisms, holds that natural systems have inherent value independent of their utility to humans, and that this inherent value grounds moral obligations to preserve and respect them. Applied to the ocean, the ecocentric view would hold that marine ecosystems have a right to exist, to flourish, and to evolve without human interference, a right that is not derived from their utility to humans but from their intrinsic ecological significance.

The rights of nature movement, which has gained significant legal and political traction in the early twenty-first century, represents an attempt to translate the ecocentric philosophical position into legal instruments. The constitutions of Ecuador (2008) and Bolivia (2009) accord rights to nature, or Pachamama, and require the state to respect and protect these rights. In the maritime context, the rights of nature concept has been invoked in advocacy for the legal recognition of the rights of the ocean as such, a proposition that has been advanced by a number of indigenous communities whose relationships with the sea are grounded in cosmologies that understand the ocean as a living entity rather than a resource. The legal implications of a rights-of-nature approach to the ocean would be transformative, requiring not merely the prevention of pollution but the positive protection of the ocean's capacity to sustain itself as a living system.

International marine environmental law, as it currently stands, is firmly anthropocentric in its foundations. UNCLOS protects the marine environment in the interests of states and their peoples; it does not recognise the ocean as a subject of rights. The 2024 ITLOS Advisory Opinion, despite its landmark character, remains within the anthropocentric framework, grounding the obligation to prevent marine pollution in the duty to states and their populations rather than in the rights of the ocean as such. However, the developing scholarship of environmental constitutionalism, which examines the growing incorporation of environmental rights and duties into national and international constitutional frameworks, suggests that the direction of legal development may be moving, slowly and unevenly, toward a more ecocentric understanding of marine environmental obligations.

For Bangladesh, the anthropocentrism-ecocentrism debate is not merely a philosophical curiosity but a question with practical implications for maritime governance. The coastal and fishing communities of Bangladesh have traditionally maintained complex and intimate relationships with the Bay of Bengal that embody something close to an ecocentric understanding of the sea. The Munda, Rakhain, and other indigenous coastal communities have customary practices and cosmologies that understand the ocean as a living partner rather than an inert resource. These traditional ecological knowledges, which are increasingly recognised in the international environmental law literature as sources of insight for sustainable governance, should inform the

design of Bangladesh's marine environmental legal framework, not merely as a concession to cultural diversity but as a source of substantive ecological wisdom.

1.3 The Precautionary Principle: Origins, Content, and Controversy

The precautionary principle is one of the central concepts of contemporary international environmental law, and its application to marine environmental protection is among the most contested issues in the jurisprudence of the law of the sea. The principle is most commonly stated in the formulation adopted by Principle 15 of the Rio Declaration on Environment and Development of 1992: where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

The precautionary principle addresses a fundamental problem in the governance of environmental risk, namely that scientific knowledge of the effects of human activities on complex natural systems is always incomplete, that the processes by which scientific consensus develops are slow relative to the pace of ecological change, and that waiting for full scientific certainty before taking regulatory action can mean waiting until the damage is irreversible. The history of marine pollution offers many examples of the costs of this wait-and-see approach: the collapse of the Atlantic cod fisheries, the depletion of whale populations, the accumulation of persistent organic pollutants in the marine food chain, and the eutrophication of enclosed sea areas are all cases where regulatory intervention came only after significant and in some cases irreversible damage had occurred.

In the maritime law context, the precautionary principle has been applied by international courts and tribunals in a variety of ways. The Southern Bluefin Tuna cases before ITLOS in 1999, in which Australia and New Zealand sought provisional measures against Japan in relation to experimental fishing for southern bluefin tuna, provided an early opportunity for ITLOS to apply the precautionary approach, though the Tribunal stopped short of declaring the principle to be a binding rule of customary international law. The MOX Plant case before ITLOS, also in 2001, applied precautionary thinking in the context of radioactive waste management and nuclear reprocessing. Subsequent ITLOS and ICJ jurisprudence has increasingly treated the precautionary approach as a relevant consideration in the interpretation of the due diligence obligations of states under UNCLOS Part XII.

The 2024 ITLOS Advisory Opinion on climate change represents the most authoritative application of the precautionary principle in the maritime context to date. The Tribunal confirmed that the due diligence standard applicable to states' obligations under Part XII of UNCLOS is, in the context of activities carrying a high risk of serious or irreversible harm to the marine environment, a stringent one, and that the precautionary approach is a relevant consideration in determining the content of that standard. This formulation does not quite make the precautionary principle a binding legal rule independently of the due diligence framework, but it firmly embeds it within the interpretation of existing legal obligations, which is functionally significant even if technically distinguishable from a declaration of binding precautionary rule.

For Bangladesh, the precautionary principle has particular significance in the governance of offshore hydrocarbon activities. The Bay of Bengal is a fragile and biologically diverse marine environment, and a major offshore oil or gas spill in Bangladesh's EEZ would cause catastrophic damage that would be difficult or impossible to reverse. The precautionary principle would require, in this context, that the authorisation of offshore exploration and exploitation activities be conditioned on rigorous environmental impact assessment, that the highest available safety standards be applied to the design and operation of offshore installations, and that precautionary limits be set on the volume and pace of extraction to prevent ecological disruption. Bangladesh's current regulatory framework for offshore hydrocarbons does not fully reflect these precautionary requirements, and this is an area where legislative reform is urgently needed.

1.4 Intergenerational Justice and Ocean Governance

The concept of intergenerational justice, the idea that the present generation has obligations to future generations in its use of shared natural resources, is among the most philosophically significant contributions of environmental ethics to international law. It was articulated by the Brundtland Commission as the core of the concept of sustainable development, defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In the maritime context, intergenerational justice grounds a duty to manage marine resources in a manner that maintains their long-term productivity and ecological integrity, rather than maximising short-term extraction at the cost of long-term depletion.

The philosophical foundations of intergenerational justice in maritime law are complex and contested. John Rawls, whose theory of justice as fairness established the dominant framework of liberal political philosophy in the second half of the twentieth century, addressed intergenerational justice through the concept of the just savings principle, which requires each generation to preserve the gains of culture and civilisation and to maintain just institutions for the benefit of subsequent generations. Applied to the ocean, the Rawlsian framework would require not merely the conservation of material resources but the maintenance of the institutional framework, including the legal architecture of the law of the sea, that enables each generation to manage ocean resources in accordance with principles of fairness.

Edith Brown Weiss, the international lawyer who has done most to develop the concept of intergenerational equity in the international legal context, proposes three principles of intergenerational equity: conservation of options, which requires each generation to conserve the diversity of the natural and cultural resource base; conservation of quality, which requires each generation to maintain the quality of the planet in no worse condition than it received it; and conservation of access, which requires each generation to provide its members with equitable rights of access to the legacy of past generations. Applied to marine resources, these principles generate specific obligations regarding biodiversity conservation, the prevention of marine pollution, and the equitable distribution of access to maritime resources across generations.

The intergenerational equity framework is directly implicated by Bangladesh's blue economy strategy. The fish stocks of the Bay of Bengal represent a natural capital endowment that belongs not only to the present generation of Bangladeshis but to all future generations. The obligation to

manage these stocks sustainably is therefore not merely a matter of present-generation self-interest but a matter of justice to future Bangladeshis who will need them for food security and livelihood. Similarly, the decision to develop offshore hydrocarbon resources raises questions of intergenerational justice, since the extraction of non-renewable resources depletes an asset that would otherwise be available to future generations, and the climate consequences of burning those hydrocarbons impose costs on future generations that the present generation does not bear. These are not arguments for non-development, but they are arguments for a development strategy that is designed with explicit attention to intergenerational equity.

1.5 Environmental Constitutionalism and the Law of the Sea

Environmental constitutionalism refers to the incorporation of environmental rights, duties, and principles into constitutional instruments, whether at the national or international level. At the national level, the trend toward environmental constitutionalism has been dramatic: as of 2025, more than 100 countries have incorporated some form of constitutional environmental protection, whether as a fundamental right, a state duty, or a principle of governance. At the international level, environmental constitutionalism is expressed in the foundational status accorded to environmental principles in multilateral treaties and in the interpretation of those treaties as constitutional rather than merely contractual instruments.

UNCLOS has been described as the constitution of the oceans, and its environmental provisions, particularly Part XII, can be understood as the environmental constitution of the maritime realm. The obligation to protect and preserve the marine environment in Article 192 is not a merely contractual obligation, to be balanced against other considerations on a case-by-case basis; it is a constitutive norm, one that defines the fundamental character of states' relationship with the ocean and that must be given effect in all of their maritime activities. This constitutionalist reading of Article 192 was substantially affirmed by the 2024 ITLOS Advisory Opinion, which treated the obligation as a positive, proactive duty to take measures rather than merely a negative duty to refrain from causing harm.

The constitutionalist interpretation of UNCLOS's environmental provisions has significant implications for Bangladesh's domestic legal framework. If the obligation in Article 192 has constitutional character, then domestic legislation that fails to give effect to this obligation is not merely a compliance gap but a constitutional deficiency, a failure to conform domestic law to the supreme legal norms by which the maritime realm is governed. This framing provides a stronger basis for judicial review of inadequate maritime environmental governance and for parliamentary demands for comprehensive legislative reform.

1.6 The Third World Approaches to International Environmental Law

The intellectual tradition known as Third World Approaches to International Law (TWAIL), discussed in Part One of this treatise in its general application to maritime law, has a specific and particularly important application in the context of marine environmental law. The environmental provisions of international law, including the law of the sea, have been shaped in large part by the priorities and perspectives of industrialised states, whose environmental concerns have historically been focused on the management of the consequences of industrial

development rather than on the development aspirations of the global South. The principle of common but differentiated responsibilities, which acknowledges that developing states bear less historical responsibility for global environmental problems and have less capacity to address them, was a major achievement of the Rio Earth Summit and represents a TWAIL-inflected correction to the nominal equality of the international environmental legal order.

But even with the principle of common but differentiated responsibilities, the international environmental legal framework imposes obligations on developing states that may constrain their development choices in ways that were never applied to the industrialised states when they were at comparable stages of development. Bangladesh, which is currently industrialising and seeking to use its maritime resources for economic development, faces environmental obligations under UNCLOS and related instruments that were not applied to the United Kingdom, France, or Germany when they were building their industrial economies on the back of coal and oil. This asymmetry is not merely a matter of abstract fairness; it is a concrete constraint on Bangladesh's development choices that has political and economic consequences.

The TWAIL response to this asymmetry is not to reject international environmental obligations but to insist on their symmetrical application, on the full implementation of common but differentiated responsibilities, and on the provision of financial and technical assistance from developed states to enable developing states to meet their environmental obligations without sacrificing their development aspirations. The 2024 ITLOS Advisory Opinion acknowledges the relevance of states' capabilities to the content of the due diligence standard, but the extent to which this acknowledgment translates into concrete obligations of financial and technical assistance from major emitting states to climate-vulnerable developing states like Bangladesh remains a contested and legally underdeveloped question.

CHAPTER 2: PART XII OF UNCLOS AS THE CONSTITUTIONAL FRAMEWORK FOR MARINE ENVIRONMENTAL LAW

2.1 The Architecture of Part XII: A Structural and Textual Analysis

Part XII of UNCLOS, entitled Protection and Preservation of the Marine Environment, consists of Articles 192 to 237, divided into twelve sections. It is the most comprehensive body of marine environmental obligations in any multilateral treaty, and its architecture reflects the negotiating history of UNCLOS III, in which the environmental provisions were contested between industrialised states concerned primarily with preserving freedom of navigation and commerce and developing coastal states concerned primarily with protecting their maritime resources from pollution originating with the activities of foreign vessels and industries. The result is a framework that attempts to balance these competing concerns through a combination of general obligations, specific pollution-source rules, enforcement provisions, and safeguards.

Section 1 of Part XII, comprising Articles 192 to 196, establishes the general obligation to protect and preserve the marine environment and defines the context within which more specific obligations apply. Article 192 states simply that states have the obligation to protect and preserve

the marine environment. This apparently simple formulation conceals considerable complexity. The use of the word obligation rather than responsibility or duty signals a legal commitment rather than a merely political aspiration. The phrase protect and preserve introduces a dual requirement: protection against existing or threatened harm, and preservation of the marine environment's ecological integrity for the future. The conjunction of these two requirements suggests that the obligation goes beyond the reactive prevention of specific pollution events and includes proactive measures to maintain the marine environment in a state that is capable of sustaining its ecological functions.

Article 193 provides that states have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. This provision mediates the tension between development rights and environmental obligations, affirming the former while conditioning it on the latter. It is an important provision for developing coastal states like Bangladesh, which need to exercise their EEZ resource rights for economic development purposes but must do so in a manner consistent with their Part XII obligations. The practical challenge lies in operationalising this balance, in establishing the regulatory frameworks and institutional mechanisms that allow resource extraction to proceed while ensuring that environmental standards are maintained.

Article 194 is the central operative provision of Part XII, requiring states to take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source. The phrase from any source is of critical importance, because it extends the obligation beyond the specifically identified pollution sources addressed in subsequent sections to include all potential sources, including, as the 2024 ITLOS Advisory Opinion confirmed, greenhouse gas emissions. The obligation to take all measures necessary is also significant, suggesting a comprehensive rather than selective approach to pollution prevention.

Article 195 prohibits states from transferring damage or hazards from one area to another or from transforming one type of pollution into another when taking measures to prevent, reduce, and control pollution. This is the no-transfer principle, which prevents states from addressing one form of environmental harm by creating another. It is particularly relevant to the management of ship bilge water, dredging spoils, and other maritime waste, where the disposal of one form of waste can create pollution in another location or medium.

Article 196 addresses the introduction of alien or new species by vessels or other means, which can cause irreversible harm to native ecosystems. The problem of invasive species in marine environments is a serious and growing one, exacerbated by the increase in global shipping traffic and, in the future, potentially by the northward migration of species driven by ocean warming. Bangladesh's domestic legal framework does not adequately address the problem of invasive marine species, which is a gap that a comprehensive reform should address.

2.2 The Pollution Prevention Framework: A Section-by-Section Commentary

Section 5 of Part XII, comprising Articles 207 to 212, establishes obligations for states in relation to specific sources of marine pollution. This section-by-section analysis focuses on those provisions most directly relevant to Bangladesh's marine environmental situation.

Article 207 addresses pollution from land-based sources, including rivers, estuaries, pipelines, and outfall structures. It requires states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment from land-based sources, taking into account internationally agreed rules, standards, and recommended practices and procedures. Land-based pollution is, globally and in the Bay of Bengal specifically, the dominant source of marine pollution, accounting for an estimated eighty percent of all marine pollution by some estimates. For Bangladesh, land-based pollution sources include agricultural runoff containing fertilisers and pesticides, urban sewage from the rapidly growing coastal cities of Chittagong, Khulna, and Barisal, industrial effluent from the textile and garments industry and from the growing industrial zones of the coastal region, and the discharge of solid waste, including plastic, into coastal rivers and waterways that ultimately empty into the Bay of Bengal.

Bangladesh's domestic legal framework for the control of land-based marine pollution is fragmented and largely inadequate. The Environment Conservation Act of 1995 and the Environment Conservation Rules of 1997 establish a general framework for environmental regulation, including pollution control, but they do not contain provisions specifically addressing marine pollution from land-based sources. The Bangladesh Water Act of 2013 governs the use and management of water resources but does not address the specific problem of land-based marine pollution. The absence of specific implementing legislation for Article 207 of UNCLOS is a significant compliance gap.

Article 210 addresses the dumping of wastes and other matter at sea. It requires states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment by dumping and to take other measures as may be necessary to prevent, reduce, and control such pollution. The London Protocol of 1996, the successor to the London Convention of 1972 on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, establishes a comprehensive international framework for the regulation of marine dumping. Bangladesh ratified the original London Convention in 1986 but has not yet ratified the 1996 London Protocol, which significantly tightens the regulatory standards by adopting a reverse listing approach, under which dumping of any material is prohibited unless it is specifically listed as permissible. The ratification of the London Protocol should be a priority in Bangladesh's maritime law reform agenda.

Article 211 addresses pollution from vessels and requires states to establish international rules and standards to prevent, reduce, and control pollution of the marine environment from vessels, primarily through the International Maritime Organization. This provision is the UNCLOS hook for the MARPOL Convention and its implementing regulations, which are discussed in detail in Chapter 3 below.

Article 212 addresses pollution from or through the atmosphere, and its significance has been dramatically enhanced by the 2024 ITLOS Advisory Opinion's confirmation that greenhouse gas emissions absorbed by the ocean constitute marine pollution. Prior to that opinion, Article 212

was primarily understood as addressing the atmospheric deposition of pollutants from land-based sources, such as the long-range transport of acid rain precursors or persistent organic pollutants. The Advisory Opinion's expansion of the definition of marine pollution to encompass greenhouse gas emissions has given Article 212 a vastly greater significance, potentially encompassing the totality of states' obligations in relation to atmospheric emissions that affect the ocean.

2.3 The Enforcement Provisions of Part XII and Bangladesh's Enforcement Challenges

The enforcement provisions of Part XII, contained in Section 6 (Articles 213 to 222), establish the respective enforcement responsibilities of the flag state, the port state, and the coastal state in relation to different sources of marine pollution. This allocation of enforcement responsibilities reflects the complex jurisdictional architecture of maritime law, in which the authority to regulate and the authority to enforce are distributed among states in ways that differ from the unitary enforcement authority of domestic law.

Flag state jurisdiction, under which the state in which a vessel is registered exercises primary enforcement authority over that vessel, is the foundational principle of maritime enforcement. Article 217 requires flag states to ensure compliance by vessels flying their flag with applicable international rules and standards established through IMO and with the flag state's own laws and regulations, and to provide for effective enforcement of such rules irrespective of where a violation occurs. For Bangladesh, flag state jurisdiction applies to the growing fleet of Bangladesh-flagged vessels, which now numbers more than a hundred ocean-going ships operated by private operators affiliated with organisations such as the Bangladesh Ocean-Going Ship Owners Association (BOGSOA). The enforcement of environmental standards on Bangladesh-flagged vessels is a direct obligation of the Bangladesh government, and it requires an effective maritime administration with technical capacity in survey, inspection, and certification.

Bangladesh's maritime administration, the Department of Shipping, has historically been under-resourced and understaffed relative to the demands of effective flag state enforcement. The industry concerns raised at the October 2025 seminar of BOGSOA regarding regulatory hurdles and alignment with upcoming IMO requirements for zero-emission fuels reflect the real tension between Bangladesh's growing fleet and the regulatory capacity of its maritime administration. A comprehensive reform of Bangladesh's flag state enforcement capacity is an essential element of the broader maritime law reform agenda.

Port state jurisdiction, under which a coastal state can inspect and detain foreign vessels in its ports that are suspected of violating applicable environmental standards, is in many respects the most practical and effective mechanism of marine environmental enforcement. Port state control, exercised through regional agreements such as the Paris MOU, the Tokyo MOU, and the Indian Ocean MOU, has become the principal mechanism by which international shipping standards are actually enforced in practice. Bangladesh is a member of the Indian Ocean MOU on Port State Control, which covers twenty-three countries in the Indian Ocean region and conducts coordinated port state control inspections on vessels operating in member state ports.

However, Bangladesh's port state control capacity, like its flag state enforcement capacity, remains limited. The Chittagong Port, which handles the vast majority of Bangladesh's international maritime trade, processes enormous volumes of shipping traffic, but the port state control inspection capacity of the Port is insufficient to conduct the systematic and comprehensive inspections that effective enforcement of MARPOL and other environmental standards requires. Investment in port state control infrastructure, training, and equipment is urgently needed.

2.4 The Due Diligence Standard in Marine Environmental Law: From Trail Smelter to the 2024 Advisory Opinion

The due diligence standard is the governing standard of conduct for states' obligations under Part XII of UNCLOS and, by extension, for states' obligations in relation to the marine environment under international law more broadly. Understanding the content, evolution, and current state of this standard is essential for any assessment of Bangladesh's compliance with its international marine environmental obligations.

The concept of due diligence in international law originated in the doctrine of state responsibility for injuries to aliens, under which a state was liable for injuries to foreign nationals caused by acts of its agents or by private parties if the state had failed to exercise due diligence in preventing or punishing the injurious act. The classic case of the Neer Claim (1926), decided by the United States-Mexico General Claims Commission, established the principle that a state's failure to exercise due diligence in protecting a foreign national from injury by private parties could constitute a denial of justice for which the state was internationally responsible.

The extension of the due diligence concept from the protection of foreign nationals to the protection of the environment originated in the Trail Smelter Arbitration of 1938 and 1941, which involved a dispute between the United States and Canada over air pollution from a zinc smelter in British Columbia that was causing damage to agricultural land in the state of Washington. The tribunal, applying principles of state responsibility and environmental protection, held that Canada was responsible for the damage caused by the smelter's emissions and was obligated to prevent the continuance of such damage. The principle that no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another state became one of the foundational principles of international environmental law, and it expressed, in substantive terms, a due diligence obligation of preventive conduct.

The ICJ's decision in the Corfu Channel Case of 1949, while not directly concerned with environmental law, established the principle that a state is obligated to notify other states of dangers within its maritime territory that it knows about or should know about, a principle of due diligence in the management of maritime risks that has been widely applied in the environmental context.

The subsequent development of the due diligence standard in the environmental context has been shaped by the ICJ's decision in the Pulp Mills on the River Uruguay case of 2010, which established that states have a due diligence obligation to carry out environmental impact

assessment before undertaking activities that may have a significant adverse impact in a transboundary context. This EIA obligation, derived from customary international law rather than from a specific treaty provision, has been incorporated into the UNCLOS framework through the provision of Article 206, which requires states that have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment to assess the potential effects of such activities.

The 2024 ITLOS Advisory Opinion has definitively stated the content of the due diligence standard in the specific context of climate change and greenhouse gas emissions. The Tribunal held that the obligation of states to take all necessary measures under Article 194(1) of UNCLOS includes a due diligence obligation to reduce greenhouse gas emissions, and that this obligation is stringent in character because of the high risk of serious and irreversible harm to the marine environment from climate change. The stringency of the due diligence standard means that states must take proactive and comprehensive action to reduce their greenhouse gas emissions to the fullest possible extent, taking into account the best available science, international rules and standards, and the circumstances and capabilities of each state. The standard does not guarantee a specific outcome, but it requires genuine effort and is not satisfied by nominal or token measures.

For Bangladesh, the implications of this due diligence standard are twofold. On the one hand, Bangladesh can invoke the stringent due diligence standard against major emitting states, arguing that their failure to reduce greenhouse gas emissions to the level that the best available science indicates is necessary to protect the marine environment constitutes a breach of their UNCLOS obligations for which Bangladesh, as a severely affected coastal state, has remedial rights. On the other hand, Bangladesh itself must demonstrate that it is taking all necessary measures to reduce its own greenhouse gas emissions, given its capabilities and circumstances, including developing its own domestic framework for climate action in the maritime sector and implementing marine environmental standards consistent with the due diligence obligation.

CHAPTER 3: THE INTERNATIONAL CONVENTIONS ON MARINE POLLUTION AND BANGLADESH'S COMPLIANCE OBLIGATIONS

3.1 The MARPOL Convention: Architecture, History, and Bangladesh's Ratification Status

The International Convention for the Prevention of Pollution from Ships, universally known as MARPOL, is the principal international instrument for the regulation of marine pollution from vessels. It was adopted in 1973, significantly amended by a Protocol in 1978, and has been further amended on numerous occasions since through the IMO's Marine Environment Protection Committee (MEPC). MARPOL consists of a main body and six technical Annexes, each addressing a specific category of shipboard pollution.

Annex I addresses pollution by oil and requires that ships be fitted with oil discharge monitoring and control equipment, oily water separating equipment, and oil record books, and that

discharges of oil or oily mixtures not exceed prescribed limits or occur in prohibited areas. Annex II addresses the control of noxious liquid substances in bulk, requiring special equipment and procedures for the discharge of such substances. Annex III covers the prevention of pollution by harmful substances carried by sea in packaged form. Annex IV addresses pollution by sewage from ships, requiring the installation of sewage treatment plants or holding tanks and restricting discharge of sewage within certain distances from land. Annex V governs the prevention of pollution by garbage from ships, including a comprehensive prohibition on the discharge of plastic into the sea. Annex VI, added in 1997 and significantly tightened in 2008 and 2016, addresses the prevention of air pollution from ships, including regulations on sulphur oxide and nitrogen oxide emissions and, since 2013, regulations on particulate matter emissions in Emission Control Areas.

Bangladesh acceded to the original MARPOL 73/78 Convention and its Annexes I and II in 1994. It has not ratified Annexes III, IV, and V, though it has enacted some domestic measures addressing these subjects. The non-ratification of the sewage and garbage annexes is a particularly significant gap, given the scale of maritime traffic in Bangladeshi waters and the well-documented problem of marine debris in the Bay of Bengal.

Annex VI, the air pollution annex, is directly relevant to the 2024 ITLOS Advisory Opinion's findings on greenhouse gas emissions. While Annex VI's current regulations on greenhouse gas emissions from shipping are limited, the IMO has adopted an Revised Strategy on Reduction of GHG Emissions from Ships in 2023, which sets targets for the reduction of the carbon intensity of international shipping by forty percent by 2030 and achieves net zero GHG emissions from international shipping close to 2050. The implementation of this strategy through future MARPOL Annex VI amendments will create significant compliance obligations for Bangladesh as both a flag state and a port state, and the domestic legal framework must be prepared to implement these obligations.

3.2 The Hong Kong Convention on Ship Recycling and Bangladesh's Precarious Position

Bangladesh is one of the world's largest ship recycling nations, handling annually a significant portion of the global tonnage of end-of-life ships through the ship-breaking yards at Sitakunda, near Chittagong. The ship recycling industry provides significant economic activity, contributing to employment and to the supply of recycled steel that feeds the domestic construction and manufacturing industries. But it is also associated with severe environmental and occupational health risks, including the release of toxic substances such as asbestos, polychlorinated biphenyls, heavy metals, and residual oil from vessels being broken, the contamination of the intertidal zone where breaking operations take place, and occupational injuries and deaths among the workers employed in the yards.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, adopted by the IMO in 2009, establishes international standards for ship recycling facilities, including requirements for inventory of hazardous materials, facility authorisation, and reporting. The Convention entered into force on 26 June 2025, following ratification by a sufficient number of states meeting the required tonnage thresholds. Bangladesh ratified the Hong Kong Convention in 2011, making it one of the early ratifications of the instrument, and

thus Bangladesh is legally bound by the Convention's provisions from its entry into force date in 2025.

The entry into force of the Hong Kong Convention on 26 June 2025 creates immediate compliance obligations for Bangladesh's ship recycling industry. Ship recycling facilities in Bangladesh must be authorised by the government and must meet the standards established in the Convention's Annex on ship recycling facility requirements. The Bangladesh Ship Recycling Rules of 2011, adopted in anticipation of the Hong Kong Convention's ratification, establish a domestic framework for the regulation of ship recycling facilities, but there are significant gaps between the requirements of the Convention and the standards actually applied in the Sitakunda yards.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is also relevant to the ship recycling industry. The Basel Ban Amendment, which entered into force in 2019 following the fortieth ratification by contracting parties, prohibits the export of hazardous wastes from developed to developing countries for recycling or final disposal. The application of the Basel Ban Amendment to ships sent from developed countries to Bangladesh for recycling has been a significant legal controversy, since ships contain large quantities of hazardous materials and could be considered hazardous waste for the purpose of the Convention. The relationship between the Hong Kong Convention and the Basel Convention is one of the most contested questions in the international law of ship recycling, and it has direct implications for Bangladesh's position as a major receiving state.

3.3 The SOLAS Convention, Maritime Safety, and Environmental Implications

The International Convention for the Safety of Life at Sea, known as SOLAS, is the most important international treaty on maritime safety. Its origins date to the aftermath of the Titanic disaster of 1912, and its current version was adopted in 1974. SOLAS establishes minimum standards for the construction, equipment, and operation of ships, and it is primarily a safety convention rather than an environmental one. But maritime accidents, particularly the sinking or grounding of vessels carrying oil, chemicals, or other hazardous cargo, are a major source of marine pollution, and the effective implementation of SOLAS standards is therefore an important element of marine environmental protection.

Bangladesh acceded to the 1974 SOLAS Convention and has implemented its provisions through the Merchant Shipping Ordinance of 1983 and subsequent amendments. The SOLAS Convention has been amended many times since 1974, and keeping domestic implementing legislation current with these amendments is an ongoing challenge. The IMO Performance Review published in 2024 identified Bangladesh as a state whose flag state implementation of IMO conventions, including SOLAS, is below the level that would be expected of a coastal state with Bangladesh's volume of shipping traffic and its stated aspirations for maritime development.

3.4 The Ballast Water Management Convention and Invasive Species

The International Convention for the Control and Management of Ships' Ballast Water and Sediments, known as the BWM Convention, was adopted by the IMO in 2004 and entered into

force in 2017. It addresses the problem of the introduction of invasive species through ships' ballast water, which is taken on in one port and discharged in another, potentially carrying with it organisms from the original location that can cause ecological disruption in the receiving environment.

Invasive species are a significant threat to the biodiversity of the Bay of Bengal, which has a high level of endemism and includes habitats such as coral reefs, seagrass beds, and mangrove forests that are particularly vulnerable to ecological disruption. Bangladesh acceded to the BWM Convention in 2016, but the implementation of the Convention's requirements, particularly the installation of ballast water treatment systems on vessels operating in Bangladeshi waters, is an ongoing challenge. The inspection and enforcement of ballast water management requirements by port state control authorities in Bangladesh requires technical capacity that has not yet been fully developed.

CHAPTER 4: THE 2024 ITLOS ADVISORY OPINION ON CLIMATE CHANGE: A COMPREHENSIVE ANALYTICAL COMMENTARY

4.1 Background: The Commission of Small Island States and the Path to Advisory Opinion No. 31

The Commission of Small Island States on Climate Change and International Law (COSIS) was established under the terms of an Agreement concluded on 31 October 2021 by Antigua and Barbuda and Tuvalu. The Agreement entered into force on the same date, and was subsequently ratified by Palau, Niue, Vanuatu, Saint Lucia, Saint Vincent and the Grenadines, Saint Kitts and Nevis, and the Bahamas, all of which are states parties to UNCLOS. The preamble to the COSIS Agreement reflects the acute awareness of its founding states of the existential threat that climate change poses to Small Island Developing States (SIDS), noting the disproportionate burden of greenhouse gas emissions emitted by developed states on the capacity of SIDS to respond, and characterising this situation as a fundamental injustice requiring the pursuit of climate justice in accordance with international law.

The decision to seek an advisory opinion from ITLOS, rather than pursuing contentious proceedings against specific major emitting states, reflected a strategic judgment about the most effective use of international legal mechanisms to advance the interests of climate-vulnerable states. An advisory opinion cannot itself impose legally binding obligations on specific states in the way that a contentious judgment can, but it can clarify the legal framework within which states' obligations are defined and thereby strengthen the normative basis for claims, diplomatic pressure, and future litigation. The advisory opinion approach also has the advantage of engaging the international legal community as a whole, since states and international organisations are invited to submit written statements and participate in oral hearings, creating a multilateral process of legal deliberation rather than an adversarial bilateral dispute.

COSIS filed its request with ITLOS on 12 December 2022, asking the Tribunal to address two principal questions: first, what are the specific obligations of state parties under the UNCLOS,

including under Part XII, with respect to ensuring the protection and preservation of the marine environment in relation to the adverse effects of climate change, including, but not limited to, ocean warming, sea level rise, and ocean acidification; and second, what are the specific obligations of state parties in relation to activities that contribute to greenhouse gas emissions.

The proceedings attracted extensive international participation. Thirty-one states and seven intergovernmental organisations filed timely written statements, and additional statements were received from further states and organisations. Oral hearings were conducted in September 2023. The scope and quality of the international legal analysis presented in the proceedings is itself a significant contribution to the development of international environmental law, and the written statements submitted by states represent an important record of state practice and opinio juris on the relationship between the law of the sea and climate change.

4.2 The Advisory Opinion's Core Findings: GHG Emissions as Marine Pollution

The Tribunal's Advisory Opinion, delivered on 21 May 2024, addressed the questions posed by COSIS in a systematic and comprehensive manner. Its most significant and immediately consequential finding was that anthropogenic greenhouse gas emissions absorbed by the ocean constitute pollution of the marine environment within the meaning of Article 1(1)(4) of UNCLOS.

Article 1(1)(4) defines pollution of the marine environment as the introduction by humans, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water, and reduction of amenities. The Tribunal's analysis of whether greenhouse gas emissions fall within this definition involved a detailed examination of each element.

On the question of whether greenhouse gases constitute a substance or energy, the Tribunal held that they clearly do, as carbon dioxide and other greenhouse gases are substances within the ordinary meaning of that term, and their absorption by the ocean introduces energy in the form of heat.

On the question of whether the introduction is by humans, directly or indirectly, into the marine environment, the Tribunal held that while greenhouse gases are emitted into the atmosphere rather than directly into the ocean, they are introduced indirectly into the marine environment through their atmospheric absorption by the ocean, and that the indirect pathway of introduction is expressly contemplated by the definition. The Tribunal relied on the scientific evidence before it, drawn primarily from IPCC reports, to confirm that the mechanisms by which atmospheric greenhouse gases affect the ocean are well established and widely acknowledged.

On the question of whether the introduction results or is likely to result in deleterious effects, the Tribunal found overwhelming scientific evidence of deleterious effects on the marine environment from ocean warming, acidification, and sea-level rise, including harm to living resources, hazards to human health in coastal communities, and the impairment of marine

amenities. These effects are already occurring and are projected to intensify significantly under all emissions scenarios considered by the IPCC.

The combined effect of these findings was to bring greenhouse gas emissions squarely within the definition of marine pollution under UNCLOS, with the result that all of Part XII's obligations regarding pollution prevention, reduction, and control are applicable to greenhouse gas emissions. The Tribunal described this as a significant finding that reflects the contemporary scientific understanding of the impacts of climate change on the marine environment and aligns the legal framework of UNCLOS with the reality of the climate crisis.

4.3 The Due Diligence Standard as Applied to Greenhouse Gas Emissions

Having established that greenhouse gas emissions constitute marine pollution under UNCLOS, the Tribunal proceeded to define the content of states' obligations in relation to such pollution. The primary obligation, derived from Articles 192 and 194(1) of UNCLOS, is a due diligence obligation to take all necessary measures to prevent, reduce, and control marine pollution from greenhouse gas emissions.

The Tribunal held that the due diligence standard applicable to obligations in this context is a stringent one, for several reasons. First, the risk of harm from uncontrolled greenhouse gas emissions is not merely serious but existential for certain states and communities, including the Small Island Developing States that are already experiencing significant impacts and face the prospect of complete submergence. Second, the harm is in many respects irreversible: once the ocean warms, acidifies, and rises to a degree that destroys coral ecosystems, renders coastal land uninhabitable, and drives species extinction, no subsequent mitigation can restore the pre-existing conditions. Third, the state of scientific knowledge about the effects of greenhouse gas emissions on the marine environment is sufficient to establish the risk of harm beyond any reasonable doubt, and the precautionary approach therefore requires proactive action rather than a wait-and-see stance.

The stringent due diligence standard means that states cannot satisfy their UNCLOS obligations by nominal or token action. The Tribunal specified that states must take all necessary measures, including legislative, administrative, and practical measures, to reduce their greenhouse gas emissions to the fullest possible extent, in accordance with the best available science, taking into account international rules and standards applicable to the prevention of marine pollution. This is a standard of genuine effort, not merely an obligation to set aspirational targets.

At the same time, the Tribunal acknowledged that the content of the due diligence obligation is differentiated by the circumstances and capabilities of different states. The standard does not require all states to take identical measures; it requires each state to take all necessary measures that are available to it given its level of technological and economic development, its existing commitments under other international instruments including the Paris Agreement, and the specific nature of its contribution to the problem. This differentiation is consistent with the principle of common but differentiated responsibilities but requires careful legal analysis in each state's specific context.

For Bangladesh, the differentiated due diligence standard means that the country is required to take all necessary measures to reduce its greenhouse gas emissions that are within its capabilities as a developing country, having regard to its commitments under the Paris Agreement and to the financial and technical assistance that it receives or should receive from developed countries. Bangladesh's Nationally Determined Contribution (NDC) under the Paris Agreement sets out the country's emissions reduction targets and its needs for international support. The implementation of these NDCs through domestic legislation that specifically addresses the marine dimension of climate change, consistent with the ITLOS Advisory Opinion's findings, is a necessary step in the comprehensive reform of Bangladesh's maritime environmental legal framework.

4.4 Obligations of Cooperation, Environmental Impact Assessment, and Monitoring

Beyond the primary obligation to reduce greenhouse gas emissions, the Tribunal identified a number of additional specific obligations of states under Part XII of UNCLOS in relation to climate change and marine environmental protection. These include the obligation to cooperate on a global and regional basis in formulating measures to prevent marine pollution from greenhouse gas emissions, as required by Articles 197 to 201; the obligation to carry out environmental impact assessment of activities that may cause substantial pollution of or significant and harmful changes to the marine environment, as required by Article 206; and the obligation to observe, measure, evaluate, and analyse the risks or effects of pollution of the marine environment, as required by Article 204.

The obligation of cooperation in Article 197 is particularly significant in the context of the Bay of Bengal, where the shared semi-enclosed sea creates a common interest among the littoral states in addressing the cumulative impacts of climate change on the regional marine environment. Bangladesh's engagement with BIMSTEC and with regional environmental cooperation mechanisms should be informed by the obligation of cooperation under Article 197 as interpreted in the Advisory Opinion, which requires states to cooperate not merely in good faith but with the specific objective of preventing, reducing, and controlling marine pollution from greenhouse gas emissions.

The EIA obligation of Article 206 has been significantly expanded by the Advisory Opinion. Prior to the opinion, the EIA obligation was understood primarily in relation to specific development activities with identifiable impacts. The Advisory Opinion's extension of the definition of marine pollution to greenhouse gas emissions potentially broadens the scope of the EIA obligation to encompass any significant activity that will generate greenhouse gas emissions with effects on the marine environment. While the practical scope of this obligation requires further development through state practice and tribunal jurisprudence, it suggests that major infrastructure projects in Bangladesh, including the expansion of Chittagong Port, the development of offshore energy installations, and the construction of industrial facilities in the coastal zone, should be subject to marine environmental impact assessment that specifically addresses their greenhouse gas emissions and the cumulative effects of those emissions on the marine environment.

The monitoring obligation of Article 204 requires Bangladesh to establish systems for observing, measuring, evaluating, and analysing the risks or effects of pollution from greenhouse gas

emissions on its marine environment. This obligation has particular significance for Bangladesh given the country's extreme vulnerability to climate impacts and the need to document those impacts for purposes of climate justice advocacy, loss and damage claims, and adaptive management. Bangladesh's investment in ocean monitoring, including tide gauges, sea temperature measurement, coral monitoring, and fisheries stock assessment, should be understood not merely as a scientific activity but as a legal obligation under UNCLOS as interpreted by the Advisory Opinion.

4.5 The Relationship between UNCLOS and the Paris Agreement

One of the most technically complex aspects of the Advisory Opinion is its treatment of the relationship between UNCLOS Part XII obligations and the obligations of states under the Paris Agreement and the broader UNFCCC framework. The difficulty arises because the Paris Agreement uses a bottom-up, nationally determined approach to emissions reduction, under which states set their own targets through Nationally Determined Contributions (NDCs) and are not bound to any specific level of mitigation. If UNCLOS's due diligence obligation requires more ambitious mitigation than a state's NDC, there could be a tension between the two instruments.

The Tribunal addressed this potential tension through the principle of systemic integration, derived from Article 31(3)(c) of the Vienna Convention on the Law of Treaties, which requires treaties to be interpreted in light of any relevant rules of international law applicable in the relations between the parties. Applying this principle, the Tribunal interpreted the content of the due diligence obligation under UNCLOS Part XII in light of the standards and commitments under the Paris Agreement, including the long-term goal of limiting global warming to 1.5 degrees Celsius. The Tribunal held that the due diligence obligation under UNCLOS and the commitments under the Paris Agreement are compatible and mutually reinforcing, and that the content of the UNCLOS obligation should be informed by the scientific understanding of what is necessary to achieve the Paris Agreement's goals.

Critically, the Tribunal also held that the UNCLOS obligation is not simply coextensive with the Paris Agreement commitments, because a state's NDC might not represent the fullest possible extent of its efforts under a stringent due diligence standard. The Advisory Opinion suggests that a state whose NDC falls significantly short of what the science indicates is necessary to achieve the Paris goals, and whose capabilities would allow more ambitious action, may be in breach of its UNCLOS obligations even if it is technically compliant with the Paris Agreement. This is a significant legal conclusion, and it has implications for both major emitting states and for the overall ambition of global climate governance.

For Bangladesh, the relationship between UNCLOS obligations and Paris Agreement commitments is more straightforward in practice than it is in theory. As a very small contributor to global greenhouse gas emissions, Bangladesh is not at risk of being found in breach of its due diligence obligations on the basis of its own emissions. The more important dimension for Bangladesh is the use of the UNCLOS framework to hold major emitting states to a stricter standard than their NDCs might imply, which is where the Advisory Opinion's finding of a stringent due diligence obligation has most practical significance.

4.6 Critical Analysis: Strengths, Limitations, and the Controversy about Judicial Overreach

The 2024 ITLOS Advisory Opinion has been celebrated as a landmark in the development of international environmental law, and its significance is undeniable. But it has also attracted criticism, and a candid academic commentary must engage with these criticisms as well as with the opinion's achievements.

The principal criticism is that the Tribunal engaged in a form of judicial overreach, reading into UNCLOS obligations that go beyond what the Convention's text, negotiating history, and the reasonable expectations of the states that ratified it can support. The argument, advanced most cogently by scholars such as Klerk (2025) in the context of the opinion's relationship with the Paris Agreement, is that the Tribunal's articulation of far-reaching obligations to mitigate greenhouse gas emissions under UNCLOS runs the risk of undermining the Paris Agreement, which, despite its imperfections, represents the political consensus among states about the appropriate framework for climate governance. By using the UNCLOS framework to impose obligations that go beyond NDC commitments, the Tribunal may be substituting judicial judgment for the political judgment of states in a domain where the Paris Agreement has been explicitly designed to preserve national discretion.

A second criticism concerns the advisory nature of the opinion. Advisory opinions are not binding on states and do not resolve specific disputes between specific parties; they are expressions of the law as the Tribunal understands it, not commands that specific states must comply with. The practical effect of the advisory opinion on the behaviour of major emitting states, which were not parties to the COSIS proceedings and which have significant interests in preserving their freedom to set their own emissions trajectories, is uncertain. The history of international environmental law suggests that advisory opinions, while influential in shaping the legal discourse and informing future litigation, do not by themselves change the behaviour of powerful states that perceive their national interests to be in tension with the recommended obligations.

A third concern is the potential for the Advisory Opinion's expansive definition of marine pollution to create unmanageable legal uncertainty. If any emission of greenhouse gases constitutes marine pollution under UNCLOS, it potentially triggers the obligations of notification, cooperation, and EIA in relation to all significant emission-generating activities, creating a level of procedural complexity that most states would find impossible to manage. The Tribunal's reliance on the threshold of substantial pollution or significant and harmful changes to the marine environment in Article 206 provides some limitation, but the precise content of this threshold in the greenhouse gas context requires further elaboration.

These criticisms do not undermine the fundamental significance of the Advisory Opinion, which represents a genuine and important development in international environmental law. But they underscore the need for the further development of the legal framework through state practice, subsequent litigation, and legislative action. For Bangladesh, the most practically important task is to translate the Advisory Opinion's principles into concrete domestic legal provisions and

institutional practices that reflect the country's specific circumstances as both a climate-vulnerable coastal state and a state party to UNCLOS with due diligence obligations.

CHAPTER 5: THE 2025 ICJ ADVISORY OPINION AND THE CONSULTATIVE TRIANGLE OF CLIMATE LAW AT SEA

5.1 The ICJ Advisory Opinion of July 2025: An Overview and Its Relationship with ITLOS Case No. 31

The International Court of Justice issued its Advisory Opinion on the Obligations of States in Respect of Climate Change on 23 July 2025, pursuant to a resolution adopted by the United Nations General Assembly requesting such an opinion. The ICJ's mandate was broader than ITLOS's, encompassing the obligations of states under any area of international law, including the UN Charter, UNCLOS, international human rights law, the UNFCCC, the Paris Agreement, and customary international environmental law. This breadth of mandate made the ICJ opinion in some respects more significant than the ITLOS opinion, because it situated climate obligations within the totality of international law rather than within the specific framework of the law of the sea.

The ICJ affirmed ITLOS's principal findings on the relationship between greenhouse gas emissions and marine pollution under UNCLOS, confirming that anthropogenic GHG emissions fall within the definition of pollution of the marine environment under Article 1(1)(4) of UNCLOS, that obligations under Part XII of UNCLOS to prevent, reduce, and control such pollution are applicable, and that the standard of due diligence applicable to these obligations is stringent given the high risk of serious and irreversible harm. The ICJ also adopted the ITLOS approach of using the principle of systemic integration to interpret UNCLOS obligations in light of the Paris Agreement and other climate instruments, and confirmed the compatibility of the UNCLOS and Paris Agreement frameworks.

Beyond the law of the sea, the ICJ addressed the obligations of states in relation to climate change under general international law, including the customary principle of prevention, under which states have a duty to prevent significant transboundary harm, and the obligation not to cause harm to other states through their domestic activities. The Court confirmed that these general international law obligations apply to greenhouse gas emissions and that states have obligations erga omnes partes in this regard, meaning obligations owed to the international community as a whole rather than only to specific states that can demonstrate individual harm. This erga omnes characterisation has significant practical implications, because it means that any state can invoke these obligations and seek their enforcement without needing to demonstrate that it has itself suffered specific harm.

For Bangladesh, the erga omnes character of climate obligations under general international law, as confirmed by the ICJ, strengthens the country's standing to raise climate accountability issues in international forums even in cases where it cannot demonstrate a specific causal connection between the emissions of a particular state and the harm it has suffered. Bangladesh's persistent

and long-standing advocacy for climate justice in the UNFCCC negotiations and in the UN General Assembly is now supported by the ICJ's confirmation that climate obligations are obligations owed to the international community as a whole, not merely bilateral obligations between emitting states and specific victims.

5.2 The Inter-American Court of Human Rights Opinion of July 2025 and the Ocean-Human Rights Nexus

The Inter-American Court of Human Rights issued its Advisory Opinion on Climate Emergency and Human Rights (OC-32/25) on 3 July 2025, at the invitation of Chile and Colombia. The opinion addressed the obligations of states parties to the American Convention on Human Rights in relation to the climate emergency, including specific obligations regarding the protection of marine ecosystems and the rights of persons whose lives and livelihoods depend on the ocean.

The IACtHR's opinion is significant for the development of marine environmental law because it explicitly brings the ocean into the human rights framework, recognising that the ocean generates half of the planet's oxygen and absorbs a third of atmospheric CO2, making it indispensable for life. The Court confirmed that ocean degradation through acidification, warming, and biodiversity loss undermines the human rights to life, health, food, and a healthy environment, and that states have obligations under human rights law to prevent such degradation. Citing ITLOS Case No. 31 extensively, the Court confirmed the global convergence between protecting the climate system and protecting the marine environment.

For Bangladesh, the human rights dimension of marine environmental law, as articulated by the IACtHR, reinforces the domestic constitutional framework for environmental protection. Bangladesh's Constitution guarantees fundamental rights including the right to life, and the courts have interpreted this right to encompass the right to a healthy environment. The IACtHR's confirmation that ocean degradation implicates human rights creates a domestic legal pathway for environmental rights litigation by coastal communities whose rights are being violated by the degradation of the marine environment, and it strengthens the constitutional basis for requiring the government to implement comprehensive marine environmental governance.

5.3 The Consultative Triangle: Systemic Integration of International Law

What has emerged from the three advisory opinions, ITLOS in May 2024, IACtHR in July 2025, and ICJ in July 2025, is a coherent and mutually reinforcing legal framework that integrates the law of the sea, human rights law, and general international law into what commentators have termed a consultative triangle of climate law at sea. Each court brought a distinctive perspective: ITLOS addressed the specific obligations under the law of the sea, the IACtHR addressed the human rights dimensions including intergenerational justice and the rights of vulnerable communities, and the ICJ addressed the comprehensive framework of obligations under general international law.

The methodological approach that binds these three opinions together is the principle of systemic integration in treaty interpretation, applied in each instance to achieve a coherent reading of international law in the face of the climate crisis. The three courts cited each other's reasoning,

built on each other's findings, and collectively articulated a framework that is more comprehensive and more authoritative than any single opinion could have achieved. This judicial dialogue represents a significant development in the coherence of international law as a system, and it provides a powerful normative foundation for the claims of climate-vulnerable states like Bangladesh.

For international legal scholars and for Bangladesh's legal advisors, the consultative triangle provides a rich body of authority that can be deployed in multiple forums, from the UNCLOS dispute settlement system to UN human rights mechanisms to domestic constitutional litigation. The practical challenge is to translate this authority into concrete claims, remedies, and reforms.

CHAPTER 6: THE BBNJ AGREEMENT AND BANGLADESH'S EMERGING OBLIGATIONS BEYOND NATIONAL JURISDICTION

6.1 The Negotiating History of the High Seas Treaty

The Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, popularly known as the BBNJ Agreement or the High Seas Treaty, was adopted by the United Nations on 19 June 2023 after more than a decade of negotiations under the auspices of a UN Intergovernmental Conference. The Agreement addresses four main subject areas: marine genetic resources and the sharing of benefits arising from their utilisation; measures such as area-based management tools and marine protected areas; environmental impact assessments of activities in areas beyond national jurisdiction; and capacity building and the transfer of marine technology.

The negotiating history of the BBNJ Agreement reflects, in microcosm, many of the broader tensions of international ocean governance. Developed countries, particularly those with the technological capacity to access deep-sea marine genetic resources, were generally cautious about provisions that would create obligations of benefit-sharing that might constrain their commercial activities. Developing countries, particularly those with large coastlines adjacent to the high seas and those with limited capacity for marine scientific research, were generally supportive of strong benefit-sharing provisions and of capacity-building obligations that would enable them to participate more fully in the governance and scientific exploration of the ocean beyond national jurisdiction.

The BBNJ Agreement represents a compromise between these positions, establishing a multilateral mechanism for the sharing of benefits from marine genetic resources, including both monetary and non-monetary benefits, but balancing this with provisions designed to maintain incentives for research and development. The environmental impact assessment provisions require states to assess the environmental impacts of their planned activities in areas beyond national jurisdiction, a requirement that extends the EIA principle beyond national jurisdiction in a novel and significant way. The area-based management tools provisions, including marine protected areas in the high seas, create a framework for the protection of high-seas ecosystems that was previously absent from international law.

6.2 Marine Genetic Resources and Bangladesh's Interests

The provisions of the BBNJ Agreement on marine genetic resources are of particular interest to Bangladesh, both as a potential supplier of marine genetic resources through the biodiversity of its EEZ and adjacent high seas areas, and as a potential beneficiary of the non-monetary and capacity-building benefits that the agreement's multilateral mechanism provides.

The Bay of Bengal is an area of significant marine biodiversity. Its unique oceanographic conditions, driven by the massive freshwater input of the Ganges-Brahmaputra-Meghna river system, the shallow shelf, and the warm tropical waters, create distinctive ecological niches that support endemic species and unique biological communities. The deep-sea areas of the Bay of Bengal, beyond the limits of Bangladesh's continental shelf, may contain biological communities with novel biochemical properties that are of interest to the biotechnology and pharmaceutical industries. Bangladesh, as a developing country with limited marine scientific research capacity, is not currently in a position to access or exploit these resources directly, but the BBNJ Agreement's benefit-sharing mechanism should ensure that Bangladesh receives a share of any benefits arising from the exploitation of genetic resources from areas adjacent to its maritime zones.

The capacity-building provisions of the BBNJ Agreement, which require developed states to provide financial and technical assistance to developing states to enable them to build capacity in marine science and ocean governance, are potentially highly valuable for Bangladesh. The development of Bangladesh's marine scientific research capacity, including its hydrographic survey capability, marine biodiversity monitoring, deep-sea exploration, and marine genetic resource documentation, is an important long-term investment in the country's ability to govern and benefit from its maritime resources. The BBNJ Agreement provides a legal basis for demanding international support for this capacity building.

6.3 Marine Protected Areas in the High Seas and Bangladesh's Adjacent Waters

The BBNJ Agreement's provisions on area-based management tools, including marine protected areas in areas beyond national jurisdiction, have potential implications for the governance of the high seas areas of the Bay of Bengal adjacent to Bangladesh's EEZ. Marine protected areas in the high seas are a new concept that has no precedent in UNCLOS itself, which contains no provisions specifically authorising the establishment of protected areas in the high seas. The BBNJ Agreement creates this novel legal framework, establishing procedures for the proposal, consideration, and establishment of high-seas marine protected areas through a Conference of the Parties mechanism.

The potential designation of marine protected areas in the high seas of the Bay of Bengal could significantly affect the management of migratory fish stocks, the regulation of fishing activities by vessels of distant-water fishing nations, and the environmental governance of the region as a whole. Bangladesh, as a coastal state with a strong interest in the sustainable management of Bay of Bengal fisheries, should engage actively in the BBNJ Conference of the Parties processes relevant to the Bay of Bengal and should advocate for the designation of high-seas marine protected areas in areas of particular ecological significance adjacent to its EEZ.

6.4 Environmental Impact Assessment Beyond National Jurisdiction

The environmental impact assessment provisions of the BBNJ Agreement represent a significant development in international environmental law, extending the EIA principle to activities in areas beyond national jurisdiction for the first time. States are required to assess the potential environmental impacts of their planned activities in the high seas and the Area before undertaking them, using the standards and procedures established in the Agreement's annexes. The results of these assessments must be made publicly available and shared with other states through the institutional mechanisms of the Agreement.

For Bangladesh, the EIA provisions of the BBNJ Agreement are relevant in two ways. First, if Bangladesh were to conduct activities in high-seas areas beyond its EEZ, including marine scientific research or the laying of submarine cables, it would be required to conduct an EIA in accordance with the Agreement's provisions. Second, the EIA provisions apply to the activities of all states in areas adjacent to Bangladesh's maritime zones, including fishing, cable-laying, and scientific research operations by foreign states in the high seas of the Bay of Bengal. The information generated by these EIAs could be relevant to Bangladesh's management of its own EEZ resources and its environmental governance obligations.

CHAPTER 7: SEA-LEVEL RISE, COASTAL EROSION, AND THE LEGAL ARCHITECTURE OF CLIMATE VULNERABILITY IN BANGLADESH

7.1 The Science of Sea-Level Rise in the Bay of Bengal and Its Differential Character

The science of sea-level rise in the Bay of Bengal region is complex and its implications for Bangladesh are more severe than global average projections might suggest. Global sea-level rise, driven by the thermal expansion of ocean water and the melting of land ice, is projected by the IPCC's Sixth Assessment Report to reach between 0.28 and 1.01 metres by the end of the twenty-first century under different emissions scenarios, with the possibility of significantly higher rises if ice sheet dynamics exceed current projections. But for Bangladesh, the effective rate of sea-level rise is substantially higher than the global average for several reasons.

First, the land surface of the Bengal Delta is subsiding as a result of natural geological processes and, to a significant extent, as a result of groundwater extraction. The rate of subsidence in parts of the delta is estimated at up to 2 centimetres per year, which when added to the rate of absolute sea-level rise produces a rate of relative sea-level rise that is among the highest in the world. Second, the reduction in sediment delivery from the Ganges and Brahmaputra rivers, caused by upstream dam construction in India and Nepal, has reduced the rate at which the delta replenishes itself and thus exacerbates the effects of subsidence and sea-level rise. Third, the increasing frequency and intensity of tropical cyclones in the Bay of Bengal, driven by ocean warming, produces storm surges that temporarily but catastrophically inundate coastal areas and can cause permanent changes to the coastal morphology.

The projected consequences for Bangladesh are severe. Current estimates suggest that a sea-level rise of one metre, which is within the plausible range under high-emissions scenarios for the end of this century, would inundate approximately seventeen to twenty percent of Bangladesh's total land area, displacing tens of millions of people and destroying agricultural land, coastal infrastructure, and freshwater resources on a massive scale. Even under more moderate emissions scenarios, the impacts on Bangladesh's coastal zone will be substantial, and the processes of saline intrusion, erosion, and increased flooding frequency are already well advanced.

7.2 Baseline Stability and the Problem of Disappearing Territory Under International Law

The international legal framework for maritime zones is built on the assumption that coastlines are relatively stable and that the baseline from which maritime zones are measured does not change significantly over time. This assumption is dramatically challenged by the realities of Bangladesh's dynamic and rapidly changing coastline. UNCLOS provides that, where the low-water line changes significantly, the baseline may be changed, but it does not specify what happens to the maritime zones that were measured from a baseline that has subsequently changed, whether through the erosion of the coast, the submergence of islands, or the alteration of river mouths.

The question of baseline stability in the face of climate change and sea-level rise has emerged as one of the most pressing unresolved issues in the international law of the sea. The International Law Commission (ILC) established a Study Group on Sea Level Rise in Relation to International Law in 2019, and the Study Group has since produced a series of reports and papers addressing the legal implications of sea-level rise for maritime zones, statehood, and international boundaries. The ILC's work, which is still ongoing as of 2025, addresses several of the most difficult legal questions in this domain.

One central question is whether states can freeze their baselines and maritime zone outer limits at their current location, preventing the loss of maritime jurisdiction as the coast erodes. The classical rule of international maritime law is that baselines follow the current coastline, meaning that they would automatically retreat landward as the coast erodes, with corresponding reductions in the extent of maritime zones. If this rule is strictly applied, Bangladesh would progressively lose maritime jurisdiction over areas that are currently within its territorial sea and EEZ as its coast erodes, a result that is both legally anomalous and practically disastrous.

The ILC Study Group has suggested that a doctrine of maritime zone preservation may be developing in state practice, under which states may assert the continued validity of their maritime zones even as the physical coastline retreats, at least where the retreat is caused by anthropogenic climate change rather than natural processes. This doctrine has been endorsed, in various forms, by Pacific island states that face the prospect of complete submergence, and there are arguments in international law, rooted in the principle of estoppel, the doctrine of acquired rights, and the policy consideration of preventing the loss of maritime jurisdiction in circumstances caused by the wrongful acts of other states, that support the preservation of maritime zones notwithstanding coastal retreat.

For Bangladesh, the question of baseline stability is not merely academic. The progressive erosion of its coast, the subsidence of its delta, and the submergence of its islands could, if the classical rule of ambulatory baselines is strictly applied, result in the loss of significant portions of the maritime territory that Bangladesh spent decades securing through international arbitration. The development of a domestic legal position on the preservation of Bangladesh's baseline and maritime zones in the face of sea-level rise, and the engagement of Bangladesh's legal and diplomatic establishment in the ILC's study group processes and in the broader international discussions on this question, is an urgent priority for the reform of Bangladesh's maritime legal framework.

7.3 The Legal Status of Submerged and Low-Tide Features: South Talpatty and Its Legacy

The story of South Talpatty Island, also known as New Moore Island, is among the most legally instructive episodes in Bangladesh's maritime history. The island emerged from the Bay of Bengal following the 1970 Bhola cyclone, as a result of sediment deposition at the mouth of the Hariabhanga River on the Bangladesh-India maritime boundary. Both Bangladesh and India claimed sovereignty over the island, which had no permanent human habitation but was strategically significant because of its location on the maritime boundary and the potential resource implications of its legal status.

The dispute was never formally adjudicated; it was rendered moot when South Talpatty was submerged by rising sea levels in approximately 2010. Its disappearance was widely reported as a vivid demonstration of the concrete consequences of sea-level rise, and it attracted international media attention that helped to publicise the vulnerability of low-lying deltaic coastal states to climate change. But beyond its symbolic significance, the South Talpatty episode raises legal questions that have not been fully resolved and that are likely to become more pressing as climate change continues.

The most fundamental of these questions concerns the legal consequences of the submergence of a feature that was previously above the low-water line. UNCLOS Article 121 establishes that islands, defined as naturally formed land areas above water at high tide, are entitled to the full range of maritime zones, including territorial sea, contiguous zone, and EEZ. UNCLOS Article 13 provides that low-tide elevations, defined as naturally formed land areas surrounded by and above water at low tide but submerged at high tide, can serve as baselines in certain circumstances but do not generate maritime zones. There is no specific provision in UNCLOS addressing the status of a feature that was previously an island but has been permanently submerged by sea-level rise.

The legal question of what happens to the maritime zone entitlements of a feature that becomes submerged is unresolved in international law. On one view, the submergence of the feature extinguishes its entitlements, since UNCLOS ties entitlements to the physical existence of territory above the high-water line. On another view, the entitlements that were created by the feature while it was above water may survive its submergence, at least in cases where the submergence is caused by the wrongful acts of other states. The latter view has greater appeal from a justice perspective, particularly in cases where the submergence is a consequence of

anthropogenic climate change for which major emitting states bear responsibility. But it requires significant development in international law before it can be regarded as a settled rule.

Bangladesh should actively engage in the international legal development on this question, both through its participation in the ILC's study group processes and through its international advocacy. The legal framework for the protection of the maritime entitlements of climate-vulnerable coastal states whose land territory is at risk of submergence is a matter of immediate practical importance for Bangladesh, and the country's voice in shaping this framework should be heard clearly and consistently.

7.4 Climate Migration, Displacement, and International Law

The human consequences of sea-level rise and coastal erosion in Bangladesh are not limited to the loss of territory and maritime jurisdiction. The displacement of coastal populations is already a significant reality, and it is projected to intensify dramatically over the course of this century. Estimates of the number of Bangladeshis who will be internally displaced or compelled to seek migration as a result of climate change range from tens of millions to over one hundred million, depending on the emissions scenario and the degree to which adaptation measures succeed in reducing the vulnerability of coastal communities.

The international legal framework for the protection of climate migrants and climate refugees is deeply inadequate. The 1951 Refugee Convention and its 1967 Protocol define a refugee as a person who is outside their country of nationality owing to a well-founded fear of persecution on grounds of race, religion, nationality, membership of a particular social group, or political opinion. Climate displacement does not fall within this definition, because it is not caused by persecution and is not necessarily associated with cross-border flight. There is no international treaty specifically addressing the protection of climate migrants, though there have been calls for such an instrument, and the UNHCR has recognised climate displacement as a growing protection concern.

The law of the sea intersects with the law of migration in complex ways in the Bangladeshi context. Bangladeshis displaced by coastal erosion and sea-level rise within Bangladesh are internal migrants who are not covered by the Refugee Convention regardless of the inadequacy of domestic protection. But Bangladeshis who are forced to leave their country entirely by the disappearance of their homeland, a prospect that is not impossible for the lowest-lying coastal communities, would occupy a legal status that is not clearly defined by existing international law. The doctrine of statelessness prevention, the principle that states have an obligation to prevent the rendering of individuals stateless, may be relevant but is not fully adequate to address the comprehensive displacement of entire communities from their homeland.

The 2019 decision of the Human Rights Committee in the Ioane Teitiota case, which concerned a citizen of Kiribati who sought asylum in New Zealand on the basis of climate change impacts, established that in the context of the climate crisis, the removal of persons to countries where the effects of climate change will prevent them from enjoying a life with dignity may engage the non-refoulement principle of international human rights law. While the Committee found that the specific conditions in Kiribati at the time of the case did not yet cross this threshold, it

acknowledged that future cases, as climate impacts intensify, might do so. This decision is directly relevant to the situation of Bangladesh's coastal communities and to the legal framework for the protection of climate migrants from Bangladesh.

7.5 Loss and Damage: The Legal Framework for Climate Compensation and Bangladesh's Position

The concept of loss and damage, which refers to the harms caused by climate change that cannot be prevented through mitigation and cannot be addressed through adaptation, has been a central and contentious issue in international climate negotiations since at least the Warsaw Mechanism on Loss and Damage was established in 2013. The term encompasses both economic losses, such as damage to infrastructure, crops, and fisheries, and non-economic losses, such as the loss of cultural heritage, biodiversity, and traditional ways of life. For Bangladesh, a country that is already experiencing significant climate-related losses and that faces the prospect of much larger losses in the coming decades, the development of an effective international legal framework for loss and damage is a matter of urgent national interest.

The Glasgow Climate Pact of 2021 established a dialogue on loss and damage, and the Sharm el-Sheikh COP27 in 2022 established a fund specifically for loss and damage. The Baku COP29 of 2024 made further progress on the capitalisation of this fund, though the amounts committed fell well short of the needs of climate-vulnerable developing countries, and the legal framework governing who can access the fund, on what terms, and for what purposes remains under development.

The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion have potentially strengthened the legal foundation for loss and damage claims by identifying specific legal obligations of states to prevent marine environmental harm from greenhouse gas emissions and by confirming the erga omnes character of climate obligations. If major emitting states are in breach of their UNCLOS obligations by failing to reduce greenhouse gas emissions sufficiently, this breach could theoretically ground claims of state responsibility under the rules of Articles on State Responsibility, including the obligation to provide full reparation for internationally wrongful acts. The practical challenges of establishing causation, quantifying loss, and enforcing any award are formidable, but the legal framework is developing in a direction that makes such claims increasingly plausible.

Bangladesh has been a consistent and vocal advocate for strong loss and damage provisions in the climate negotiations, and its engagement with the legal dimensions of climate accountability through the advisory opinion processes, through the work of the International Law Commission, and through bilateral and regional diplomacy should be understood as part of a comprehensive strategy to secure the legal and financial resources necessary for adaptation to the climate impacts that cannot be prevented.

CHAPTER 8: THE SUNDARBANS AS A LEGAL CASE STUDY IN MARINE ENVIRONMENTAL GOVERNANCE

8.1 The Ecological and Legal Status of the Sundarbans

The Sundarbans, the world's largest mangrove forest, straddles the international boundary between Bangladesh and the Indian state of West Bengal, occupying approximately 10,000 square kilometres of delta, estuary, tidal channels, and forested islands at the confluence of the Ganges, Brahmaputra, and Meghna rivers with the Bay of Bengal. The Bangladeshi Sundarbans, which covers approximately 6,017 square kilometres, represents the larger portion of the ecosystem, and is designated as a Wildlife Sanctuary under the Wildlife Preservation Act and as a Reserved Forest under the Forest Act of Bangladesh.

The Sundarbans is one of the most ecologically significant areas in the world. It is the habitat of the Royal Bengal Tiger, the Irrawaddy dolphin, the estuarine crocodile, and hundreds of species of fish, birds, and invertebrates. Its mangrove forest provides a critical ecological service as a natural coastal protection barrier against cyclones and storm surges, a function that has been repeatedly demonstrated by the role of the Sundarbans in absorbing the energy of cyclones including Sidr in 2007, Aila in 2009, and Amphan in 2020, thereby protecting the lives and livelihoods of millions of people in the coastal zone. The Sundarbans also sequesters enormous quantities of carbon in its biomass and sediments, playing a significant role in the regional carbon cycle and in Bangladesh's climate change mitigation potential.

The legal status of the Sundarbans is complex and multi-layered. The UNESCO World Heritage Convention, to which Bangladesh acceded in 1983 and which Bangladesh has implemented through the Antiquities Act, requires states parties to identify, protect, conserve, present, and transmit to future generations the outstanding universal value of World Heritage Sites located within their territories. The Sundarbans was inscribed on the World Heritage List in 1997, giving it the status of a site of outstanding universal value that the international community as a whole has an interest in seeing protected. This international dimension of the Sundarbans' legal status creates obligations for Bangladesh beyond those of purely domestic environmental law.

The Ramsar Convention on Wetlands of International Importance, to which Bangladesh acceded in 1992, designates the Sundarbans as a Ramsar site, requiring Bangladesh to promote the conservation of wetland habitats and the maintenance of their ecological character. The Ramsar Convention's wise use principle requires that wetlands be managed in a manner consistent with their ecological integrity, balancing human use with conservation. The governance of the Sundarbans under the Ramsar framework requires Bangladesh to prepare and implement management plans that address both the conservation of the ecosystem's biodiversity and the sustainable management of its resources by the local communities whose livelihoods depend on it.

8.2 Threats to the Sundarbans and the Legal Governance Framework

The Sundarbans is under serious and multiple threats, many of which are directly linked to the maritime legal issues addressed in this commentary. Sea-level rise and increased salinity are altering the ecological composition of the mangrove forest, causing the landward retreat of the mangrove ecosystem and the death of trees in areas where salinity has reached levels beyond the tolerance of the dominant mangrove species. The Rampal Power Station, a 1,320-megawatt coal-

fired power plant being constructed approximately fourteen kilometres from the boundary of the Sundarbans World Heritage Site, has been a subject of intense environmental controversy, with UNESCO and its advisory bodies formally expressing concern that the plant's construction and operation could adversely affect the outstanding universal value of the World Heritage Site. The UNESCO World Heritage Committee has requested Bangladesh to prepare and submit reports on the state of conservation of the Sundarbans, including the potential impacts of the Rampal plant.

The legal framework for the protection of the Sundarbans from industrial development is inadequate in several respects. The Buffer Zone established around the wildlife sanctuaries within the Sundarbans does not extend to the full ecological footprint of the ecosystem, and industrial development within the buffer zone is subject to environmental clearance requirements that are applied with variable rigour. The environmental impact assessment process for the Rampal power plant has been criticised by independent scientists and by the UNESCO advisory bodies for failing to adequately assess the risks to the Sundarbans ecosystem, and for relying on optimistic assumptions about the effectiveness of pollution control measures that may not be achievable in practice.

The maritime dimension of the Sundarbans' protection is particularly significant. The Sundarbans estuary is a major maritime corridor, through which significant volumes of shipping traffic pass between the interior waterways of Bangladesh and the Bay of Bengal. Maritime accidents in the Sundarbans, including the MV Southern Star 7 tanker collision in December 2014, which spilled approximately 92,000 litres of furnace oil into the Sundarbans wildlife sanctuary, have demonstrated the catastrophic vulnerability of the ecosystem to maritime pollution. The regulatory framework for shipping in Sundarbans waters, including speed limits, mandatory routing, prohibition of hazardous cargo transport in certain channels, and emergency response requirements, needs to be substantially strengthened.

The bilateral dimension of the Sundarbans' governance is also complex. The transboundary character of the ecosystem means that effective protection requires cooperation between Bangladesh and India, but the bilateral framework for such cooperation is not well developed. A joint Bangladesh-India Sundarbans Management Committee exists in principle, but its mandate and capacity are limited, and the governance of the Indian and Bangladeshi portions of the Sundarbans proceeds largely independently on either side of the international boundary. A more robust bilateral legal framework for the integrated governance of the Sundarbans ecosystem, drawing on the UNCLOS obligation of cooperation in Article 123 regarding enclosed and semi-enclosed seas, and on the broader framework of international environmental law, would be a significant step forward.

8.3 The Sundarbans and Marine Environmental Obligations Under UNCLOS

The Sundarbans mangrove ecosystem is directly relevant to Bangladesh's marine environmental obligations under UNCLOS in several ways. First, the Sundarbans is identified in the 2024 ITLOS Advisory Opinion's discussion of climate change mitigation measures as an example of ecosystem that is important as a carbon sink and that should be protected as part of states' due diligence obligations under UNCLOS Part XII. The Tribunal specifically mentioned the protection of mangroves, seagrass, and deep-sea deposition areas as examples of measures that

states might take to enhance the resilience of their marine environment to climate change. This suggests that Bangladesh's protection of the Sundarbans is not merely a domestic conservation obligation but an element of its international due diligence duties under UNCLOS.

Second, the Sundarbans is a critical habitat for numerous marine species, including fish that are central to Bangladesh's commercial fisheries and food security. The protection of the Sundarbans mangrove ecosystem is therefore directly related to Bangladesh's obligations under UNCLOS Article 61 to ensure that the maintenance of living resources in its EEZ is not endangered by over-exploitation, and to the obligation of Article 194 to prevent harm to living resources and marine life. The loss of the Sundarbans mangrove habitat would have severe consequences for the productivity of Bangladesh's EEZ fisheries, and its protection is therefore a maritime governance obligation as well as a terrestrial conservation one.

Third, the carbon sequestration function of the Sundarbans is directly relevant to Bangladesh's obligations under the UNCLOS due diligence framework as interpreted in the 2024 Advisory Opinion. The destruction or degradation of the Sundarbans mangrove carbon sink would increase net greenhouse gas emissions from Bangladesh and reduce the ocean's capacity to absorb carbon, thereby contributing to the marine pollution from greenhouse gas emissions that UNCLOS Part XII is now understood to address. The protection of the Sundarbans is therefore an element of Bangladesh's due diligence obligations regarding marine pollution from greenhouse gas emissions.

CHAPTER 9: MARINE SPATIAL PLANNING, ECOSYSTEM-BASED MANAGEMENT, AND THE GOVERNANCE OF BANGLADESH'S MARITIME SPACE

9.1 The Concept and Legal Basis of Marine Spatial Planning

Marine Spatial Planning (MSP) is a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process. It is the maritime analogue of terrestrial land-use planning, adapted to the three-dimensional, dynamic, and multi-user character of the ocean environment. MSP has been identified by the UN's Sustainable Development Goal 14 (Life Below Water), by the CBD's Kunming-Montreal Global Biodiversity Framework of 2022, and by the IOC-UNESCO Roadmap for MSP as a key governance tool for the sustainable management of ocean space.

The legal basis for MSP in UNCLOS is implicit rather than explicit. UNCLOS does not use the term marine spatial planning, but it provides the jurisdictional framework within which MSP is exercised, defines the rights and obligations of coastal states in different maritime zones, and creates the framework of international obligations that MSP must respect. The EU's MSP Directive of 2014 and the IOC-UNESCO's 2021 MSP Roadmap provide detailed guidance on the development of MSP frameworks at the national and regional level, and these instruments, while

not binding on Bangladesh, represent best practice standards that should inform the development of a Bangladeshi MSP framework.

The ecological character of Bangladesh's maritime space makes MSP a particularly important governance tool. The Bay of Bengal is a complex and highly productive ecosystem, with an extraordinary concentration of different user groups and competing interests in a relatively small sea area. Fisheries activities, maritime navigation, offshore energy exploration, tourism, cable-laying, military activities, and conservation objectives all compete for space in Bangladesh's maritime zones, and without a systematic framework for managing this competition, conflicts will proliferate and ecological harm will accumulate. MSP provides the systematic framework that can identify and manage these conflicts, ensure that the most sensitive ecological areas are protected from incompatible uses, and direct economic activities to locations where they can be developed sustainably.

9.2 Marine Protected Areas in Bangladesh's EEZ: The Legal Framework and Gaps

Marine Protected Areas (MPAs) are defined areas of ocean in which human activities are managed to achieve long-term conservation of nature with associated ecosystem services and cultural values. The CBD's Kunming-Montreal Global Biodiversity Framework, adopted in December 2022, sets a target of protecting at least thirty percent of the world's oceans through effectively and equitably managed area-based conservation measures by 2030, the so-called 30 by 30 target. The achievement of this target requires a substantial expansion of the global network of MPAs, including in the EEZs of coastal states that currently have limited MPA coverage.

Bangladesh currently has a very limited MPA network in its maritime zones. The existing marine protected areas in Bangladesh consist primarily of the Sundarbans Wildlife Sanctuaries, which are located in the coastal and estuarine zone, and a small number of marine reserves established under the Wildlife Preservation Act. There are no established MPAs in Bangladesh's offshore EEZ, despite the ecological significance of this area and the growing threats it faces from overfishing, hydrocarbon exploration, and climate change.

The establishment of MPAs in Bangladesh's EEZ is legally possible under UNCLOS, which in Article 56(1)(b)(iii) gives the coastal state jurisdiction over the protection and preservation of the marine environment in the EEZ. The implementation of MPAs in the EEZ requires domestic legislation that defines the categories of MPA, establishes the process for their designation, specifies the restrictions on human activities within them, and creates the institutional mechanisms for their management and monitoring. The existing Marine Fisheries Ordinance and the Wildlife Preservation Act provide partial frameworks, but they are not comprehensive or coordinated enough to support a systematic MPA network in the EEZ.

The development of a Bangladeshi national MPA framework, consistent with the 30 by 30 target and with Bangladesh's obligations under UNCLOS and the CBD, should be a priority element of the comprehensive maritime law reform. This framework should define a typology of MPAs ranging from strict no-take reserves in areas of particularly high ecological sensitivity to multiple-use areas where sustainable fishing and other compatible activities are permitted,

establish criteria for MPA designation that are based on ecological science, provide for the participation of local communities in MPA governance, and ensure that the benefits of MPAs in terms of fisheries productivity and ecosystem services are equitably distributed.

9.3 Ecosystem-Based Management: Theory, International Obligations, and Application to Bangladesh

Ecosystem-based management (EBM) is an approach to the management of natural resources that takes into account the entire ecosystem, including humans, rather than focusing on single species or sectors in isolation. EBM recognises that the ocean is a complex system in which different species, habitats, and human activities are interdependently connected, and that effective management of any component of the system requires understanding and accounting for the impacts of that management on the system as a whole. EBM is recognised in UNCLOS through the obligation in Article 61 to take measures designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing states, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards.

The concept of EBM has been substantially developed since UNCLOS was adopted, through the work of the FAO, the CBD, the IOC-UNESCO, and various regional fisheries management organisations. Key principles of EBM include the precautionary approach, the integration of environmental, social, and economic objectives, the recognition of ecological uncertainty and the consequent need for adaptive management, and the engagement of all relevant stakeholders in decision-making. These principles are broadly consistent with the UNCLOS framework but require specific operationalisation through domestic law and institutional practice.

For Bangladesh, the application of EBM to the management of its maritime space requires significant institutional and legislative reform. The current sector-by-sector approach to maritime governance, in which fisheries, hydrocarbons, navigation, and environmental protection are managed by different agencies under different legal frameworks, is fundamentally incompatible with the holistic perspective of EBM. The development of an integrated maritime governance framework, whether through a dedicated Blue Economy Authority or through a reformed institutional architecture with strong coordination mechanisms, is a prerequisite for the effective application of EBM principles to Bangladesh's maritime zones.

CHAPTER 10: THE SHIP RECYCLING INDUSTRY: ENVIRONMENTAL LAW, HUMAN RIGHTS, AND THE CHALLENGE OF SUSTAINABLE COMPLIANCE

10.1 The Global Significance of Bangladesh's Ship Recycling Industry

Bangladesh, along with India, Pakistan, and Turkey, is one of the four major ship recycling nations in the world, collectively handling between eighty and ninety percent of global ship recycling by tonnage. Bangladesh's ship recycling industry, concentrated at the Sitakunda yards

near Chittagong, has historically been the largest in the world by tonnage in some years, and it continues to be a major contributor to Bangladesh's steel supply and to the economy of the Chittagong region. The industry employs tens of thousands of workers directly, and many more indirectly in the associated services and supply chains.

The environmental and human costs of the ship recycling industry as practised in Bangladesh, however, are severe. End-of-life ships contain numerous hazardous materials, including asbestos, which was widely used in ship construction until the 1980s, polychlorinated biphenyls (PCBs) used in electrical equipment, heavy metals including lead, cadmium, and mercury in paints and coatings, residual oil and petroleum products in tanks and piping, and ozone-depleting substances in refrigeration and fire-fighting systems. In the beaching method of ship recycling, which is universally practised in Bangladesh, ships are driven onto the intertidal beach at high tide and then dismantled in situ by workers, with the hazardous materials released directly onto the beach and into the tidal zone without adequate containment or treatment.

The environmental contamination of the Sitakunda coastline from ship recycling activities has been well documented by scientific studies and by NGO investigations. Soil and sediment samples from the area contain extremely high concentrations of heavy metals, persistent organic pollutants, and petroleum hydrocarbons. The intertidal and subtidal marine habitats in the vicinity of the ship-breaking yards have been severely degraded, with loss of mangrove vegetation, reduction in benthic biodiversity, and contamination of the fish and shellfish that are caught and consumed by local communities. The contamination of the coastal marine environment around Sitakunda constitutes a violation of Bangladesh's obligations under UNCLOS Part XII and under MARPOL, as well as of the Basel Convention and of domestic environmental laws.

10.2 The Hong Kong Convention: Bangladesh's Post-Entry-into-Force Compliance Obligations

As noted above, Bangladesh ratified the Hong Kong Convention on Ship Recycling in 2011, and the Convention entered into force on 26 June 2025. Bangladesh is now legally bound to implement the Convention's requirements, which include the authorisation of ship recycling facilities through a government licensing process, the establishment of standards for the safe and environmentally sound management of hazardous materials in ships being recycled, the requirement for ships to carry an Inventory of Hazardous Materials (IHM) that is maintained and updated throughout the ship's life, and the establishment of inspection and enforcement mechanisms to ensure compliance.

The immediate challenge for Bangladesh is to bring its existing ship recycling industry into compliance with the Hong Kong Convention's standards. The Bangladesh Ship Recycling Rules of 2011, adopted in advance of the Convention's entry into force, establish a framework for the regulation of ship recycling facilities, including requirements for facility authorisation, worker safety, and environmental management. But the implementation of these rules has been inconsistent, and there remains a significant gap between the standards required by the Hong Kong Convention and the actual practices at the Sitakunda yards.

The challenges of compliance are both technical and political. Technical challenges include the retrofitting of existing yards with the facility management systems, containment structures, and waste treatment equipment required by the Convention; the training of workers and management in the safe handling of hazardous materials; and the establishment of monitoring and reporting systems to ensure ongoing compliance. Political challenges include the economic pressure to reduce compliance costs in order to maintain price competitiveness against facilities in other ship recycling states, the resistance of yard owners to the capital investment required for compliance, and the political sensitivity of an industry that provides significant employment and economic activity in the Chittagong region.

The resolution of these challenges requires a combination of regulatory enforcement, economic incentives, and international support. The government of Bangladesh should use the entry into force of the Hong Kong Convention as an opportunity to conduct a comprehensive inspection of all ship recycling facilities in Sitakunda, to establish clear timelines for compliance with the Convention's standards, and to provide financial and technical support to facilities that are committed to upgrading their practices. International support, including from the IMO, the Green Climate Fund, and bilateral donors, should be sought to offset the costs of compliance for an industry that is economically important but environmentally damaging.

10.3 The Interaction between the Hong Kong Convention and the Basel Convention

One of the most contentious legal questions in the international governance of ship recycling is the relationship between the Hong Kong Convention and the Basel Convention. The question arises because ships being sent for recycling may contain large quantities of hazardous waste, and if they qualify as hazardous waste under the Basel Convention, their transport from a developed country to a developing country like Bangladesh for recycling would be prohibited under the Basel Ban Amendment that entered into force in 2019.

The Hong Kong Convention and the Basel Convention represent different legal approaches to the same problem. The Hong Kong Convention approaches ship recycling as a maritime industry to be regulated through flag state, port state, and recycling state obligations, using ship certification and facility authorisation as its primary regulatory tools. The Basel Convention approaches end-of-life ships as hazardous waste to be managed in accordance with the Convention's waste management framework, using transboundary movement controls as its primary regulatory tool. The two approaches are not necessarily incompatible, but their interaction in specific cases can create legal uncertainty.

The Basel Convention Secretariat and several NGOs have taken the position that ships containing hazardous wastes above certain threshold quantities are hazardous waste for the purpose of the Convention and that their export for recycling from developed to developing countries is therefore prohibited under the Basel Ban Amendment. If this position is correct, then the sending of hazardous ships to Bangladesh for recycling by EU or other developed country owners would be prohibited under the Basel Convention, regardless of the ship's Hong Kong Convention compliance status. The shipping industry and the IMO have generally contested this interpretation, arguing that the Hong Kong Convention is the appropriate legal instrument for the governance of ship recycling and should take precedence.

Bangladesh's legal position in this controversy is important but has not been fully developed. As a developing country that is a major recipient of recycled ships, Bangladesh has an interest in the continued operation of its ship recycling industry, which the Basel Ban Amendment could severely restrict if applied to ships. At the same time, Bangladesh also has an interest in ensuring that the ships it receives for recycling are clean and that its workers are not exposed to hazardous materials beyond the minimum levels required by the Hong Kong Convention. The development of a comprehensive domestic legal position on the relationship between the Hong Kong Convention and the Basel Convention, informed by the advice of Bangladesh's international law experts and by Bangladesh's broader interests in sustainable maritime development, is an important element of the maritime law reform agenda.

CHAPTER 11: OCEAN ACIDIFICATION, MARINE PLASTIC POLLUTION, AND THE EMERGING REGULATORY CHALLENGES

11.1 Ocean Acidification: The Science, the Law, and the Implications for Bangladesh

Ocean acidification is the process by which the ocean becomes more acidic as it absorbs carbon dioxide from the atmosphere. Since the beginning of the industrial era, the ocean has absorbed approximately thirty percent of the carbon dioxide emitted by human activities, causing a decrease in ocean pH from approximately 8.2 to approximately 8.1, representing a thirty percent increase in the concentration of hydrogen ions. While this may appear to be a small change, it is significant relative to the natural variability of ocean chemistry and is causing measurable harm to marine organisms that build shells and skeletons from calcium carbonate, including corals, oysters, mussels, and certain plankton species.

The legal treatment of ocean acidification in international law was transformed by the 2024 ITLOS Advisory Opinion, which specifically identified ocean acidification as one of the deleterious effects of greenhouse gas emissions that brings those emissions within the definition of marine pollution under UNCLOS. Prior to the Advisory Opinion, ocean acidification was recognised in the scientific literature and in the political declarations of international climate conferences as a significant environmental problem, but it had not been formally incorporated into the legal framework of the law of the sea. The Advisory Opinion's confirmation that it constitutes marine pollution under UNCLOS creates specific legal obligations for states to prevent, reduce, and control the atmospheric emissions that cause it.

For Bangladesh, ocean acidification poses a significant threat to the marine ecosystem of the Bay of Bengal and to the fisheries and aquaculture sectors that are central to food security and livelihoods. The Bay of Bengal contains coral reef systems, including the patch reefs of the St. Martin's Island area, that are already showing signs of bleaching and degradation associated with ocean warming and acidification. The decline of coral reef habitats would have severe consequences for reef-associated fish species that contribute to coastal fisheries, and for the natural coastal protection that reef structures provide against wave energy and erosion. The bivalve aquaculture sector, which has potential for significant development in Bangladesh's

coastal zone, would also be adversely affected by acidification, since oysters and mussels are particularly sensitive to changes in ocean pH.

11.2 Marine Plastic Pollution: The Scale of the Problem and the International Legal Response

Marine plastic pollution is one of the most visible and widespread environmental threats to the global ocean. An estimated eight to twelve million tonnes of plastic enters the ocean each year, joining an existing stock of more than 150 million tonnes accumulated since the mid-twentieth century. Plastic debris in the ocean is distributed across the surface, the water column, and the seabed, with particular concentrations in the ocean gyres and in coastal and estuarine areas. The degradation of larger plastic items into microplastics, and of microplastics into nanoplastics, creates a pervasive form of contamination that enters the marine food chain and has documented effects on marine organisms, including fish and marine mammals, and potentially on human health through the consumption of contaminated seafood.

Bangladesh is a significant contributor to marine plastic pollution. The country's rivers, particularly the Buriganga, Shitalakshya, Turag, and Dhaleswari rivers that flow through the Dhaka metropolitan area, carry large quantities of plastic waste into the Meghna and eventually into the Bay of Bengal. The Ganges River, which flows through Bangladesh before entering the Bay, is one of the most plastic-polluted rivers in the world by volume of plastic delivered to the ocean. Bangladesh's coastal areas, where solid waste management systems are often inadequate, are also a significant direct source of marine plastic debris.

The international legal framework for addressing marine plastic pollution is fragmented. MARPOL Annex V prohibits the discharge of plastic garbage from ships, but it does not address land-based plastic pollution, which is the dominant source. The UN General Assembly has passed numerous resolutions on marine plastic pollution, and the UNEP has convened international negotiations on a global plastics treaty. In November 2024, the fifth session of the Intergovernmental Negotiating Committee for a Global Plastic Treaty (INC-5) concluded without agreement on the text of a treaty, and the negotiations were extended into 2025. The development of a comprehensive and binding international treaty on plastic pollution, including both production reduction targets and waste management standards, is urgently needed, and Bangladesh's advocacy in the plastics treaty negotiations should reflect its dual status as a source of marine plastic pollution and as a victim of its environmental consequences.

11.3 The UN Plastics Treaty: Implications for Bangladesh

The negotiations for a global plastics treaty, initiated by the UN Environment Assembly in March 2022, aim to produce a legally binding international agreement addressing the full lifecycle of plastics, from production to disposal. Bangladesh's position in these negotiations is complex. As a major textile producer and exporter, Bangladesh uses significant quantities of plastic in packaging and manufacturing, and restrictions on plastic production or use could affect the competitiveness of its export industries. As a coastal state severely affected by marine plastic pollution, Bangladesh has a strong interest in effective international action to reduce the flow of plastic into the ocean.

The most substantively significant provisions under negotiation concern production targets, which would require states to reduce the production of virgin plastic by a specified percentage over a defined timeframe; product design standards, which would require plastics to be designed for recyclability and to avoid the use of hazardous additives; extended producer responsibility schemes, which would require plastic producers to take responsibility for the end-of-life management of their products; and financial mechanisms to support developing countries in implementing the treaty's requirements.

For Bangladesh, the critical issues in the plastics treaty negotiations are the adequacy of financial support for developing countries, the flexibility of implementation timelines to allow developing countries to build their waste management capacity, and the effectiveness of the treaty's measures in actually reducing the flow of plastic into the ocean. A treaty that imposes substantive obligations on developing countries without providing adequate financial support for compliance, or that focuses primarily on downstream waste management without addressing upstream production, would not effectively address the structural drivers of marine plastic pollution and would place disproportionate burdens on countries like Bangladesh.

CHAPTER 12: THE INSTITUTIONAL ARCHITECTURE FOR MARINE ENVIRONMENTAL GOVERNANCE IN BANGLADESH: A COMPREHENSIVE REFORM PROPOSAL

12.1 The Current Institutional Framework: A Critical Assessment

Bangladesh's institutional architecture for marine environmental governance is characterised by fragmentation, overlapping mandates, inadequate resources, and weak coordination. Multiple ministries and agencies have relevant jurisdictions, including the Ministry of Shipping (maritime transport, port governance, Coast Guard), the Ministry of Fisheries and Livestock (fisheries management), the Ministry of Energy and Mineral Resources (offshore hydrocarbons), the Ministry of Environment, Forest and Climate Change (environmental regulation and climate policy), the Ministry of Foreign Affairs (maritime boundary issues and international law), the Bangladesh Navy (maritime security and surveillance), and the Bangladesh Coast Guard (maritime law enforcement). There is no single ministry or agency with comprehensive authority over Bangladesh's maritime zones, and the coordination mechanisms among the relevant bodies are inadequate.

This fragmentation creates a number of specific governance problems. First, it produces gaps in regulatory coverage, where activities fall between the mandates of different agencies and are effectively unregulated. Second, it produces jurisdictional conflicts, where different agencies apply different and sometimes contradictory standards to similar activities. Third, it impairs the effectiveness of Bangladesh's engagement in international maritime negotiations and institutions, because the development of coherent national positions requires coordination among multiple ministries that is difficult to achieve in practice. Fourth, it makes it difficult to implement the integrated, ecosystem-based approach to maritime governance that international law and good governance practice require.

The gap between Bangladesh's international legal obligations and its domestic governance capacity is a structural problem that cannot be addressed by marginal improvements to the existing institutional framework. It requires a comprehensive institutional reform that creates the authority, the resources, and the coordination mechanisms necessary for effective maritime governance. The following sections propose the elements of such a reform.

12.2 The Case for a Marine Environment Authority

The most fundamental institutional reform needed for Bangladesh's marine environmental governance is the establishment of a dedicated Marine Environment Authority (MEA) with comprehensive authority over the protection and preservation of the marine environment in all of Bangladesh's maritime zones. Such an authority would bring together the marine environmental regulatory functions currently distributed among multiple agencies, provide a single institutional home for the implementation of UNCLOS Part XII obligations and related international conventions, develop and implement the integrated marine environmental governance framework that effective ocean management requires, and represent Bangladesh in international marine environmental fora with a coherent and authoritative voice.

The legal basis for the MEA would be a dedicated Marine Environment Protection Act, which would define the authority's mandate, powers, and institutional structure. The Act would incorporate the definition of marine pollution from UNCLOS Article 1(1)(4) as expanded by the 2024 ITLOS Advisory Opinion, establish specific standards for the prevention of pollution from all sources including vessels, land-based sources, seabed activities, dumping, and atmospheric emissions, create a marine environmental impact assessment process for activities in Bangladesh's maritime zones, establish a marine environmental monitoring system, and provide for enforcement powers including inspection, investigation, and prosecution.

The Sri Lanka Marine Environment Protection Authority, established by the Marine Environment Protection Act of 1981, provides a useful model for Bangladesh's MEA. Sri Lanka's MEPA has a broad mandate covering marine pollution prevention, marine protected areas, and the regulation of maritime activities for environmental purposes. While Sri Lanka's specific institutional context differs from Bangladesh's in important ways, the concept of a dedicated marine environmental authority with integrated regulatory authority is directly applicable.

12.3 Financing Marine Environmental Governance: The Blue Economy Dividend and International Support

Effective marine environmental governance requires sustained financial investment, and it is important to be explicit about the sources of this investment. The current level of public investment in marine environmental governance in Bangladesh is wholly inadequate relative to the scale of the challenge and the value of the maritime resources at stake. The development of a sustainable financing framework for marine environmental governance is an essential element of the comprehensive reform agenda.

Several potential sources of financing deserve consideration. First, the revenues from Bangladesh's blue economy activities, including fisheries licensing fees, offshore hydrocarbon royalties, port fees, and aquaculture licensing, provide a potential source of ring-fenced funding for marine environmental governance. The establishment of a Marine Environment Fund, financed from a proportion of blue economy revenues, would create a dedicated funding stream that grows as the blue economy expands and that directly links the beneficiaries of marine resource use with the costs of environmental governance.

Second, international climate finance, including funding from the Green Climate Fund, the Adaptation Fund, and bilateral climate finance arrangements, can and should be directed to marine environmental governance as an element of Bangladesh's climate adaptation and mitigation strategies. The connection between marine environmental protection and climate change, as confirmed by the 2024 ITLOS Advisory Opinion, strengthens the case for directing climate finance to marine governance, and Bangladesh should systematically frame its marine environmental governance needs as climate adaptation investments in its engagement with international climate finance mechanisms.

Third, the BBNJ Agreement's capacity building provisions, discussed in Chapter 6, should be used to secure international support for Bangladesh's development of marine scientific research capacity, environmental monitoring systems, and governance institutions. The agreement creates specific obligations for developed states to provide financial and technical assistance to developing states, and Bangladesh should engage actively with the agreement's institutional mechanisms to access this support.

12.4 Legal Reform Priorities: A Comprehensive Legislative Agenda

The following paragraphs identify the specific legislative reforms that are needed to address the gaps and deficiencies in Bangladesh's marine environmental legal framework identified in this Part of the commentary.

A Marine Environment Protection Act is the most urgent and most comprehensive legislative priority. As described above, this Act should establish the Marine Environment Authority, define marine pollution comprehensively to reflect the UNCLOS definition as expanded by the 2024 Advisory Opinion, establish specific pollution prevention standards for all sources of marine pollution, create a marine environmental impact assessment process, establish a marine environmental monitoring system, and provide for enforcement powers and penalties. The Act should also incorporate the principle of intergenerational equity and the precautionary principle as governing principles of marine environmental governance.

A revised Marine Fisheries Act is urgently needed to replace the Marine Fisheries Ordinance of 1983. The new Act should establish a fisheries management framework based on ecosystem-based management principles, incorporate the maximum sustainable yield standard with appropriate environmental qualifications, establish a fisheries data collection and assessment system, provide for fisheries management plans at the stock level, create a licensing and quota system for commercial fishing, address the specific problem of IUU fishing, implement

Bangladesh's obligations under the FAO Port State Measures Agreement (PSMA), which Bangladesh acceded to in 2016, and establish effective penalties for fisheries violations.

An amendment to the Territorial Waters and Maritime Zones Act is needed to address the specific gaps identified in this commentary, including the grey area problem with India, the treatment of sea-level rise and baseline stability, the legal framework for the BBNJ Agreement, and the incorporation of the 2024 ITLOS Advisory Opinion's findings on greenhouse gas emissions as marine pollution.

A Ship Recycling Compliance Act is needed to implement the Hong Kong Convention's requirements in domestic law, establish the facility authorisation process, specify environmental and safety standards for ship recycling facilities, create an inspection and enforcement system, and establish penalties for non-compliance.

A Marine Protected Areas Act is needed to create a comprehensive legal framework for the establishment and management of MPAs in Bangladesh's maritime zones, define the categories of MPAs, establish the process for their designation and management, and provide for the engagement of local communities in MPA governance.

A Blue Economy Development Act is needed to provide an integrated legal framework for the governance of blue economy activities, establish the institutional coordination mechanisms among the relevant ministries and agencies, create the Blue Economy Authority or equivalent body, and define the principles and standards that govern the development of maritime economic activities in a manner consistent with Bangladesh's marine environmental obligations.

12.5 The Role of Civil Society, Indigenous Communities, and Local Knowledge in Marine Environmental Governance

Effective marine environmental governance in Bangladesh cannot be achieved through government regulation alone. Civil society organisations, academic institutions, local communities, and indigenous and traditional fishing communities all play important roles in the governance of maritime resources and in the protection of the marine environment. Their engagement in governance processes is not merely a matter of political legitimacy; it is a practical necessity, because these actors possess knowledge, relationships, and legitimacy in their communities that government agencies cannot replicate.

The traditional ecological knowledge of coastal fishing communities in Bangladesh, accumulated over generations of intimate engagement with the Bay of Bengal, constitutes an important resource for marine environmental governance. Fishers' knowledge of fish spawning grounds, migration routes, seasonal variations in stock abundance, and the effects of environmental changes on marine life is a form of empirical knowledge that complements and sometimes exceeds the knowledge derived from formal scientific methods. The CBD's Kunming-Montreal Global Biodiversity Framework recognises the value of traditional knowledge for biodiversity governance, and the BBNJ Agreement includes provisions on the role of indigenous peoples and local communities in the governance of marine biodiversity. Bangladesh's marine environmental

governance framework should systematically incorporate mechanisms for the recognition and use of traditional ecological knowledge in decision-making.

The empowerment of coastal communities in marine environmental governance also has a significant dimension of justice. Coastal fishing communities in Bangladesh are among the most vulnerable to the environmental degradation of the Bay of Bengal, and they often have the least influence in the governance processes that determine how their marine environment is managed. The establishment of formal mechanisms for community participation in marine environmental governance, including community-based fisheries management, co-management of marine protected areas, and participation in the monitoring and enforcement of environmental standards, is both a governance best practice and a matter of social justice.

12.6 International Models and Lessons for Bangladesh's Reform

Bangladesh's reform of its marine environmental governance framework can draw on the experience of a range of states that have developed effective maritime environmental management systems. Norway, Australia, Sri Lanka, and Indonesia have all been mentioned in earlier parts of this commentary as states whose experience offers relevant lessons. In the specific context of marine environmental governance, additional models deserve attention.

Portugal, as a small coastal state with a large EEZ relative to its land territory, has developed an integrated ocean policy that provides a model for the governance of maritime space through coordinated institutional frameworks. Portugal's Directorate-General for Maritime Policy, established in 2007, coordinates the activities of the various ministries and agencies with maritime responsibilities and provides a single point of authority for the implementation of EU maritime law and international maritime obligations.

New Zealand, a Pacific island state with a large EEZ and significant marine biodiversity, has developed a sophisticated marine environmental governance framework that integrates fisheries management, marine protected areas, and environmental regulation in a coherent institutional and legislative structure. New Zealand's Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act of 2012 provides a dedicated regulatory framework for the environmental effects of activities in the EEZ, including a comprehensive EIA process for seabed mining, scientific research, and other activities.

Palau, a Small Island Developing State that has made marine environmental protection a central element of its national identity and governance, has established the Palau National Marine Sanctuary, which covers the entirety of Palau's EEZ apart from a small fishing zone reserved for domestic use. While Bangladesh's circumstances are different from Palau's in important respects, the political will and institutional commitment to marine environmental protection that Palau has demonstrated provides an inspirational model for the elevation of marine environmental governance to a national priority.

CHAPTER 13: THE INTEGRATED REFORM FRAMEWORK: CONNECTING ENVIRONMENTAL OBLIGATIONS WITH THE BROADER MARITIME LAW ARCHITECTURE

13.1 The Coherence Imperative: Environmental Law as the Foundation of Sustainable Maritime Governance

The central argument of this Part of the commentary is that marine environmental law is not a peripheral or supplementary dimension of the law of the sea but its foundational dimension, without which the sustainable development of maritime resources and the realisation of the blue economy vision are impossible. The fish of the Bay of Bengal cannot be harvested sustainably if the ecosystem that sustains them is degraded by pollution, acidification, warming, and habitat destruction. The hydrocarbon resources of Bangladesh's EEZ cannot be developed responsibly without robust environmental governance that prevents catastrophic spills and mitigates the climate consequences of fossil fuel extraction. The maritime transport industry cannot contribute to sustainable development if it is allowed to pollute the ocean with impunity. The blue economy is, at its foundation, an ecological concept, and its legal framework must be correspondingly rooted in the law of the marine environment.

This recognition requires a fundamental reorientation of Bangladesh's maritime legal and governance framework, from one that treats environmental regulation as a constraint on development to one that treats environmental integrity as the precondition for development. This reorientation is not a luxury that Bangladesh can defer until it is wealthier and more developed; it is an urgent necessity, because the degradation of the Bay of Bengal's marine environment is already underway and is projected to accelerate under current trajectories. The time to reform the legal framework is now, before the damage is irreversible.

The reform framework proposed in this Part of the commentary is integrated in the sense that it addresses environmental obligations in their connections with fisheries governance, hydrocarbon regulation, maritime transport, institutional architecture, and regional and international cooperation, rather than treating environmental law as an isolated domain. The legislative agenda, the institutional reforms, and the international engagement strategy are all designed to reinforce each other and to produce a coherent and comprehensive transformation of Bangladesh's maritime environmental governance.

13.2 Climate Justice and Bangladesh's Legal Strategy: Connecting Domestic Reform with International Advocacy

Bangladesh's domestic marine environmental reform and its international climate justice advocacy are not separate tracks but mutually reinforcing dimensions of a single strategic vision. A Bangladesh that has a strong domestic marine environmental governance framework, that is implementing its UNCLOS obligations conscientiously and comprehensively, and that can demonstrate through credible monitoring data the impacts of climate change on its marine environment, is a far more effective international advocate for climate justice than a Bangladesh that neglects its domestic obligations while making international demands.

The 2024 ITLOS and 2025 ICJ Advisory Opinions have provided Bangladesh with legal tools of unprecedented power for its international climate advocacy. The confirmation that major emitting states are in breach of their UNCLOS due diligence obligations by failing to reduce greenhouse gas emissions sufficiently creates a legal basis for formal claims, diplomatic pressure, and potential litigation that Bangladesh and other climate-vulnerable developing states can use to demand more ambitious action and greater financial support. The erga omnes character of climate obligations under general international law, confirmed by the ICJ, means that Bangladesh has standing to raise these obligations in international forums without needing to demonstrate a specific bilateral legal relationship with any particular emitting state.

Bangladesh should develop a comprehensive legal strategy for the use of these judicial tools, in coordination with other climate-vulnerable states and with the legal support of international environmental law organisations. This strategy should include the consideration of formal arbitration proceedings under UNCLOS against major emitting states that are in clear breach of their Part XII obligations, participation in the development of the international law of loss and damage through engagement with the ILC and the climate finance negotiations, and advocacy for the progressive development of international law to provide more specific and enforceable obligations on climate mitigation and compensation.

13.3 The Philosophical Foundations of a Reformed Maritime Environmental Framework for Bangladesh

The reforms proposed in this Part of the commentary are not merely technical adjustments to existing laws and institutions. They reflect a philosophical reorientation of Bangladesh's relationship with its marine environment, from an extractive relationship in which the ocean is a source of resources to be maximised, to a stewardship relationship in which the ocean is a common heritage to be preserved and passed on to future generations in a condition no worse than it was received.

This philosophical reorientation draws on multiple intellectual traditions. It draws on the Grotian tradition of the ocean as a common space subject to the general obligation to use it consistently with the interests of all; on the Rawlsian tradition of justice as fairness to future generations; on the capabilities approach of Amartya Sen and Martha Nussbaum, which grounds development objectives in the expansion of human capabilities rather than the maximisation of resource extraction; on the ecocentric philosophy of deep ecology, which recognises the intrinsic value of marine ecosystems independent of their utility to humans; and on the indigenous ecological knowledge traditions of Bangladesh's own coastal communities, which have long understood the ocean as a living partner rather than an inert resource.

This philosophical pluralism is not a weakness but a strength. The complexity of the challenge of governing the ocean sustainably in the twenty-first century requires the resources of multiple intellectual traditions, and a legal framework that is grounded only in positivist rule-application will be inadequate to the demands of adaptive governance in a rapidly changing environment. The integration of philosophical reflection into the design of legal institutions and legislative frameworks is not an indulgence; it is a practical necessity for the development of governance

systems that are resilient, equitable, and capable of learning and adapting in response to new knowledge and new challenges.

13.4 The 30 by 30 Commitment, the Kunming-Montreal Framework, and Bangladesh's Implementation Obligations

The Kunming-Montreal Global Biodiversity Framework (GBF), adopted at COP15 of the Convention on Biological Diversity in December 2022, establishes twenty-three targets for the conservation and sustainable use of biodiversity by 2030. Among the most significant for Bangladesh's maritime governance is Target 3, the 30 by 30 target, which requires parties to ensure that at least thirty percent of terrestrial, inland water, coastal, and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures.

Bangladesh is a party to the CBD and is therefore bound by the GBF's targets, though they are framed as commitments rather than binding rules. The achievement of the 30 by 30 target in Bangladesh's maritime zones would require the establishment of marine protected areas covering approximately thirty percent of Bangladesh's EEZ and continental shelf, which would represent an enormous expansion from the current minimal MPA coverage. The design and implementation of such an expanded MPA network requires the legislative framework, the institutional capacity, and the financial resources that the reforms proposed in this commentary are intended to create.

The relationship between the 30 by 30 target and Bangladesh's fishing industry requires careful management. Marine protected areas that restrict fishing in ecologically sensitive areas can, if well designed and effectively managed, increase the long-term productivity of adjacent fisheries by providing refugia for spawning and juvenile fish and by maintaining the ecosystem structure that supports fish production. The evidence from MPA networks in other regions, including the Caribbean, the Great Barrier Reef, and the Coral Triangle, consistently shows that well-managed MPAs deliver net benefits for fisheries over the long term, even though they impose short-term costs on fishing communities in the restricted areas. The communication of this evidence to Bangladesh's fishing communities and the design of MPA governance frameworks that engage and compensate those communities are essential elements of a politically viable MPA expansion strategy.

13.5 Regional Cooperation as a Legal Obligation and a Strategic Opportunity

The governance of the Bay of Bengal's marine environment cannot be effective if it is pursued by Bangladesh alone. The Bay of Bengal is a shared ecosystem, and the actions of each of its littoral states affect the marine environment experienced by the others. Pollution originating in Indian rivers and coastal industries affects Bangladesh's coastal waters. Fishing activities by vessels of multiple states in the high seas of the Bay affect the fish stocks that migrate into Bangladesh's EEZ. The impacts of climate change on the Bay of Bengal are determined by the cumulative greenhouse gas emissions of all states, not by Bangladesh's emissions alone. Effective

governance of the Bay's marine environment therefore requires cooperation among all of the Bay's littoral states, coordinated through appropriate regional frameworks.

The UNCLOS obligation of cooperation in Article 123, read in conjunction with the enhanced cooperation obligations articulated by the 2024 ITLOS Advisory Opinion, creates a legal basis for demanding that the Bay of Bengal littoral states cooperate more effectively in the governance of their shared marine environment. BIMSTEC provides the political framework for this cooperation, but it needs a specific legal and institutional architecture for marine environmental governance that goes beyond general declarations of cooperative intent. The establishment of a Bay of Bengal Marine Environment Commission, modelled on the OSPAR Commission for the North-East Atlantic, the Helsinki Commission for the Baltic Sea, or the Barcelona Convention system for the Mediterranean, would provide the institutional infrastructure for genuinely effective regional marine environmental governance.

Such a commission would need mandates covering marine pollution monitoring and response, fisheries conservation for shared stocks, the governance of marine protected areas in adjacent high-seas areas, climate change adaptation in the coastal zone, scientific research cooperation, and the coordination of national environmental standards. Its legal basis would be a multilateral convention among the Bay of Bengal littoral states, ideally negotiated under the auspices of BIMSTEC, and its operational structure would need to reflect the diverse interests and capacities of the different member states, with strong provisions for technical assistance to the less developed members.

Bangladesh, as the host of the BIMSTEC secretariat and as the coastal state most comprehensively affected by the ecological condition of the Bay of Bengal, should be the champion of this regional marine environmental governance initiative. The legal expertise and international advocacy capacity that Bangladesh developed in the course of its maritime boundary arbitrations should now be directed toward the establishment of a regional governance framework that translates the promise of sustainable blue economy development into the reality of a protected and productive Bay of Bengal for generations to come.

CONCLUSION TO PART ELEVEN: THE MARINE ENVIRONMENT AS THE SOUL OF BANGLADESH'S MARITIME LEGAL FRAMEWORK

Part Eleven has traversed a vast and complex terrain, from the philosophical foundations of marine environmental law to the technical specifications of the Hong Kong Convention on Ship Recycling, from the epochal jurisprudential developments of the 2024 ITLOS and 2025 ICJ Advisory Opinions to the specific ecological vulnerabilities of the Sundarbans mangrove ecosystem, from the conceptual architecture of Marine Spatial Planning to the practical politics of regional marine environmental governance in the Bay of Bengal. The terrain is vast because the subject is vast: the marine environment of Bangladesh encompasses 118,813 square kilometres of ocean, provides food and livelihoods for tens of millions of people, serves as the natural barrier against the cyclones and storm surges that are among the most deadly natural hazards in the world, and is under threat from a combination of overexploitation, pollution,

climate change, and institutional inadequacy that constitutes one of the most serious governance challenges facing the Bangladeshi state.

The central argument of this Part is straightforward even if its elaboration requires extensive analysis. The marine environment is not a peripheral concern of maritime law, to be addressed in a chapter on environmental regulations after the more important subjects of navigation, trade, and resource extraction have been covered. The marine environment is the foundational subject of maritime law, the condition of possibility for all other maritime activities. Without a healthy, productive, and resilient marine ecosystem, there are no sustainable fisheries, no safe navigation, no prosperous coastal communities, and no meaningful blue economy. The law of the sea exists, at its most fundamental level, to govern the relationship between human civilisation and the ocean, and that relationship must, if it is to be sustainable, be a relationship of stewardship and respect rather than of extraction and abuse.

The 2024 ITLOS Advisory Opinion, with its confirmation that anthropogenic greenhouse gas emissions constitute marine pollution and that states bear stringent due diligence obligations to prevent, reduce, and control such pollution, represents the most significant recent development in the realisation of this stewardship vision in international law. The 2025 ICJ and IACtHR Advisory Opinions have reinforced and extended this vision, integrating it into the comprehensive framework of general international law and human rights law. Together, the consultative triangle of climate law at sea has created a legal architecture of unprecedented comprehensiveness and authority for the protection of the ocean from the most dangerous environmental threat in human history.

Bangladesh's task, as a state party to UNCLOS and as a country whose future prosperity and indeed whose physical survival depend on the health of the Bay of Bengal, is to translate this international legal architecture into domestic law and institutional practice. The legislative reforms, the institutional changes, and the international legal strategies proposed in this Part of the commentary are the elements of that translation. They are ambitious in their scope, but the ambition is proportionate to the challenge. The ocean does not allow of incremental or partial solutions. It demands, as it has always demanded from those who depend on it, a commitment that is total, a knowledge that is comprehensive, and a governance that is both just and effective.

The commentary in subsequent Parts of this treatise will build on the environmental framework established in Part Eleven to examine specific sectoral dimensions of Bangladesh's maritime law reform, including fisheries governance, hydrocarbon regulation, maritime transport law, and the institutional architecture of the reformed blue economy authority. The environmental dimension addressed in this Part will remain a constant thread through all subsequent analysis, because the protection of the marine environment is not a discrete sectoral concern but the foundational principle on which all other maritime governance must rest.

The ocean remembers. It carries in its chemistry, its temperature, its circulation patterns, and its biodiversity the record of everything that human civilisation has done to it and continues to do. Bangladesh must ensure that the record it writes on the ocean over the coming decades is a record of stewardship and renewal, not of extraction and neglect. The law is the instrument of this commitment. The reform of Bangladesh's maritime legal framework is the means by which

that commitment becomes concrete, enforceable, and durable. There is no more important work in Bangladesh's legal and governance landscape today.

Part Eleven ends here. Part Twelve will address the comprehensive governance of Bangladesh's fisheries sector, examining the science of fisheries management, the international legal framework for fisheries governance, the domestic legislative framework, the problem of IUU fishing, the rights of small-scale fishers, and the reform agenda for sustainable fisheries governance in the Bay of Bengal.

SELECTED REFERENCES AND FURTHER READING FOR PART ELEVEN

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PART TWELVE

INTERNATIONAL SHIPPING, MARITIME LABOUR LAW, PORT STATE CONTROL, AND THE GOVERNANCE OF BANGLADESH'S MARITIME TRANSPORT SECTOR

LEGAL ANALYSIS, JURISPRUDENTIAL COMMENTARY, HISTORICAL INVESTIGATION, AND A COMPREHENSIVE AGENDA FOR REFORM

PREFACE TO PART TWELVE

The movement of ships across the ocean has been, for millennia, the principal mechanism through which human civilisations have exchanged goods, ideas, people, and power. Without maritime commerce, the world as we know it would not exist. The globalised economy of the twenty-first century depends, to an extent that is rarely appreciated in public discourse, upon the uninterrupted functioning of an international shipping system that carries approximately ninety percent of world trade by volume. The legal framework that governs this system is one of the most technically complex, historically layered, and institutionally rich bodies of international law in existence. It encompasses rules about the construction and seaworthiness of ships, the training and welfare of the seafarers who sail them, the rights and duties of flag states and port states, the allocation of liability when ships collide or sink or pollute the sea, the recovery of ships and their cargoes from the hazards of the ocean, the governance of the employment relations of the millions of men and women who work at sea, and the organisation of the institutional machinery through which these rules are made, applied, and enforced.

For Bangladesh, the governance of international shipping and maritime labour is a matter of the most direct national interest. Bangladesh is a major maritime nation in several important senses. It is a significant user of international shipping services, since the great majority of its exports

and imports move by sea through the Port of Chittagong and the Port of Mongla. It has a substantial and growing merchant fleet registered under its flag, the quality and governance of which reflects directly on its reputation in the international maritime community. It has one of the world's largest ship recycling industries at Sitakunda in the Chittagong district, which employs tens of thousands of workers but has been the subject of sustained international criticism for its safety and environmental practices. It is a major supplier of seafarers to the international shipping industry, with Bangladeshi officers and ratings serving on ships of many nationalities across the world's oceans. And it is developing, through its blue economy strategy, an ambition to become a major maritime power in the Bay of Bengal, with implications for the governance of its ports, its shipping registry, and its maritime administrative infrastructure.

The legal framework that Bangladesh has developed to govern these dimensions of its maritime sector is, however, significantly inadequate to the demands of its position and its ambitions. The merchant shipping legislation is dated and only partially aligned with international conventions. The ship recycling industry operates under environmental and safety standards that fall well below international best practice, notwithstanding the adoption of the Bangladesh Ship Breaking and Recycling Rules of 2011 and the National Action Plan on ship recycling. The protection of Bangladeshi seafarers under the Maritime Labour Convention of 2006, which Bangladesh ratified in 2014, is imperfectly implemented in domestic law. The port state control regime, which is Bangladesh's primary mechanism for ensuring that foreign ships in its waters meet international safety and environmental standards, lacks the institutional capacity and the legal specificity to be fully effective. And the admiralty jurisdiction of the Bangladesh courts, which is the domestic judicial mechanism for the resolution of maritime disputes, is based on legislation of British colonial vintage that has not been comprehensively updated to reflect modern international maritime law.

This Part undertakes a comprehensive legal commentary on all of these dimensions of Bangladesh's maritime transport governance. It traces the historical development of the international legal framework for shipping and maritime labour, examines the philosophical and jurisprudential foundations of the concepts of flag state jurisdiction and port state control, provides a detailed critical analysis of Bangladesh's domestic legislative framework, engages with the most recent developments in international maritime law including the adoption of the Hong Kong International Convention on the Safe and Environmentally Sound Recycling of Ships, the progressive development of the International Maritime Organization's regulatory agenda, and the implications of the BIMSTEC Agreement on Maritime Transport Cooperation of 2025. And it proposes a comprehensive agenda for the reform of Bangladesh's maritime transport law that is grounded in the deepest traditions of legal philosophy, responsive to the most current developments in international maritime law, and directed toward the practical improvement of the legal and institutional framework within which Bangladesh's maritime sector operates.

The argument of this Part is that maritime transport law reform is not a peripheral or purely technical matter but a question of national development, of workers' rights, of environmental governance, and of Bangladesh's place in the international legal community. The reform of this body of law is accordingly both an urgent practical necessity and a profound jurisprudential and political project.

CHAPTER 1: THE HISTORICAL EVOLUTION OF INTERNATIONAL SHIPPING LAW - FROM ANCIENT CODES TO THE IMO REGULATORY SYSTEM

1.1 Ancient Maritime Law: The Foundations of a Universal Regulatory Tradition

The history of maritime law is, to a remarkable degree, a history of universalism. Even in the ancient world, before the emergence of anything resembling a systematic international legal order, the rules governing ships and seafarers at sea tended toward uniformity across different legal systems and trading communities. This was not the product of any deliberate international legal design but of the practical necessities of maritime commerce. Ships carrying cargo from one port to another could not be subject to entirely different and incompatible legal regimes at every port of call; the costs of such legal fragmentation would have been prohibitive, and the commercial relationships that maritime trade required would have been impossible to sustain. The sea thus imposed a kind of practical universalism on maritime law from very early in its history, a universalism that can be traced in the shared features of the oldest surviving bodies of maritime law.

The Rhodian Sea Law, fragments of which survive in later compilations and which exercised influence throughout the ancient Mediterranean world, addressed questions of jettison, average contribution, and salvage that remain central to maritime law today. The concept of general average, under which the loss incurred in jettisoning part of a cargo to save the ship is shared among all the interests at risk in proportion to the value of their shares in the venture, is one of the oldest legal concepts in continuous use. It appears in the Rhodian Sea Law, in the Lex Rhodia de Iactu of Roman law, in the medieval maritime codes of the European trading cities, in the York-Antwerp Rules of the nineteenth century, and in the York-Antwerp Rules 2016, which are the most recent revision of this venerable body of practice. The longevity and continuity of this concept across twenty-five centuries of legal development is testimony to the extraordinary stability of the underlying commercial logic and to the power of mercantile custom as a source of law.

The Babylonian Code of Hammurabi, dating to approximately 1754 BCE, contained provisions dealing with maritime commerce and the responsibilities of ship owners, shippers, and captains. The Periplus of the Erythraean Sea, a merchant's handbook of the first century CE, described the commercial practices and customary rules of trade in the Indian Ocean, including the Bay of Bengal, demonstrating that the maritime trading communities of South and Southeast Asia had developed their own bodies of maritime commercial law well before any contact with the Western legal tradition. The Malabar coast of India, the ports of Bengal, and the trading cities of the Malay Archipelago were centres of a sophisticated maritime commercial civilisation whose legal practices, though not well documented in surviving sources, are evidenced by the patterns of trade and the commercial institutions that archaeologists and historians have identified.

The medieval European contribution to maritime law was codified in a series of maritime codes that emerged from the major trading cities of the Mediterranean and the North Sea. The Roles d'Oleron, developed in the twelfth century in the island of Oleron off the western coast of

France, was the most influential of these codes, governing the rights and duties of ship owners, masters, and mariners in the maritime trade of the Atlantic coast of Europe. The Consolat del Mar, developed in Barcelona in the thirteenth century, was the governing maritime code of the Mediterranean, covering matters of charter parties, bills of lading, general average, salvage, and the rights and duties of seafarers. The Laws of Wisby, developed in the Hanseatic trading city of Visby on the island of Gotland in the Baltic Sea, governed the maritime trade of the North and Baltic Seas. These medieval codes, different in detail but similar in their fundamental concepts, were the foundations upon which the modern law of maritime commerce was built.

The pattern that emerges from this historical survey is one of remarkable consistency: maritime law across different cultures and historical periods has addressed the same fundamental problems, the seaworthiness of ships, the allocation of risks in maritime ventures, the duties and rights of seafarers, the resolution of disputes arising from maritime accidents and commercial failures, and the organisation of the political and judicial authority necessary to make and enforce the relevant rules. The specific solutions vary, but the problems are constant, because they are determined by the physical realities of maritime navigation and the commercial logic of maritime trade. This observation has important jurisprudential implications: it suggests that maritime law has a degree of functional necessity and internal logic that sets it apart from many other branches of law and that makes it particularly amenable to universal or near-universal codification.

1.2 The Development of Maritime Law in the Colonial Era: Bengal and the British Imperial Framework

The maritime law applicable to the Bengal region underwent a fundamental transformation with the establishment and consolidation of British colonial rule. The East India Company, which operated initially under royal charters and later under parliamentary supervision, developed an elaborate system of commercial and maritime law for the governance of its operations, including its extensive maritime operations in the Indian Ocean and the Bay of Bengal. This system drew on English common law, the law of the sea as it had developed in the European maritime tradition, and the practical necessities of long-distance colonial trade.

The Prize Courts established by the British Crown in India, including the Court of Admiralty at Calcutta established in 1798, exercised jurisdiction over captured ships and cargoes in the context of naval warfare and over maritime disputes arising from commerce in the waters adjacent to Bengal. These courts applied English admiralty law, supplemented by the local necessities of the colonial commercial environment, and their decisions contributed to the development of a body of Anglo-Indian maritime law that would eventually be codified and consolidated in the legislation of the British Indian Empire.

The Merchant Shipping Act of the United Kingdom, first consolidated in 1854 and subsequently amended and re-enacted on several occasions, was applied to British India and governed the registration of British ships, the qualifications and duties of masters and officers, the conditions of service of mariners, and the safety of passenger ships. This legislation brought the maritime sector of British India, including the ports and shipping operations of Bengal, within the framework of British imperial maritime law, connecting them to the broader international system

of maritime governance that was developing through bilateral and multilateral agreements among the major maritime powers of the period.

The port of Chittagong, which had been a significant centre of maritime trade since antiquity, was developed under British colonial rule as a major port of export for the products of Bengal and the hinterland. The Port Commissioners of Chittagong, established by colonial legislation, were responsible for the administration of the port, the maintenance of navigational aids, and the regulation of port operations. The legal framework governing the port was colonial legislation that reflected British maritime administrative practice and that would eventually be inherited, with modifications, by the successor states of Pakistan and Bangladesh.

The partition of British India in 1947 and the subsequent creation of the state of Bangladesh in 1971 required the new states to inherit, adapt, and reform the colonial maritime legal framework. Pakistan inherited the British Indian maritime legislation and applied it to the maritime activities of both East and West Pakistan, though the geographical remoteness of East Pakistan from the dominant power centre in West Pakistan meant that maritime governance of the Bengal coast received relatively limited attention. The liberation of Bangladesh in 1971 created the need for a fresh assessment of the inherited maritime legal framework and its adequacy for the needs of an independent nation with its own maritime interests and ambitions.

The earliest maritime legislation of independent Bangladesh, including the Merchant Shipping Ordinance of 1983, was the product of this process of inheritance and adaptation. It drew heavily on the British Merchant Shipping Act and on the legislation of Pakistan, adapting these inherited frameworks to the specific circumstances of the newly independent state. The Merchant Shipping Ordinance of 1983 remains, with amendments, the primary legislation governing merchant shipping in Bangladesh today, and its colonial heritage is visible in its structure, its concepts, and some of its specific provisions.

1.3 The International Maritime Organization: History, Structure, and Regulatory Authority

The International Maritime Organization (IMO), established by a convention adopted in Geneva in 1948 as the Inter-Governmental Maritime Consultative Organization and renamed in 1982, is the United Nations specialized agency with responsibility for the safety and security of international shipping and the prevention of pollution by ships. It is headquartered in London and currently has one hundred and seventy-five member states, including Bangladesh, which joined in 1976. The IMO is the primary source of international regulatory standards for the shipping industry, and its conventions and resolutions provide the framework within which both the flag state jurisdiction and the port state control systems operate.

The theoretical foundation of IMO authority deserves careful examination from a jurisprudential perspective. The IMO does not have legislative authority in the traditional sense: it cannot enact binding rules that apply directly to ships or seafarers. Instead, it adopts conventions that become binding on their member states when ratified, and those member states are then obliged to implement the conventions' requirements in their domestic law and to enforce them through their flag state and port state control systems. The IMO's regulatory authority is thus mediated through

the consent and domestic implementation of member states, a structure that is characteristic of international organisations operating in the positivist tradition of international law.

The significance of this structure is that the effectiveness of international shipping standards depends critically on the quality and consistency of flag state and port state control implementation. A convention adopted by the IMO has no direct effect on a ship at sea; its provisions become operative only when they are incorporated into the domestic law of the flag state and enforced by the flag state administration, or when they are enforced through port state control inspections in foreign ports. This creates a system of multiple, overlapping enforcement responsibilities whose effectiveness depends on the capacity and political will of the relevant national administrations. For Bangladesh, which is both a flag state and a port state, this means that its effectiveness in implementing IMO standards is a direct measure of its governance capacity in the maritime sector.

The major IMO conventions that are relevant to Bangladesh's maritime governance include the International Convention for the Safety of Life at Sea (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), the International Convention on Load Lines, the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS), the International Convention on Salvage, the Nairobi International Convention on the Removal of Wrecks, the International Convention on Civil Liability for Oil Pollution Damage (CLC), the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND Convention), the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, the Convention on Limitation of Liability for Maritime Claims (LLMC), and the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships. Bangladesh's ratification status and domestic implementation of each of these conventions varies, and the gaps in ratification and implementation are a significant dimension of the reform challenge addressed in this Part.

The IMO's regulatory output is not limited to binding conventions; it also includes a large body of codes, guidelines, recommendations, and resolutions that, while not formally binding, are treated in practice as authoritative statements of best practice and are incorporated by reference into binding conventions or applied through port state control regimes. The International Safety Management (ISM) Code, the International Ship and Port Facility Security (ISPS) Code, the Polar Code, and the Code of Safety for Fishermen and Fishing Vessels are examples of this category of quasi-binding IMO regulatory instruments. The boundary between formally binding and quasi-binding IMO standards is in practice somewhat blurred, since port state control officers typically inspect ships against both categories of standards and may detain ships for failure to comply with codes that are nominally voluntary. This practical blurring of the formal legal distinction between binding and non-binding standards is a significant feature of the IMO regulatory system that has attracted scholarly attention and that has implications for Bangladesh's implementation obligations.

1.4 The Theoretical Architecture of Flag State Jurisdiction

The concept of flag state jurisdiction is foundational to the international law of shipping. Every ship on the high seas must be registered under the flag of a state, and it is the flag state that exercises primary jurisdiction over the ship, its crew, and the activities conducted on board. The flag state determines the nationality of the ship, is responsible for ensuring that the ship meets international standards of safety and environmental protection, exercises criminal jurisdiction over offences committed on board on the high seas, and is responsible for the conduct of the ship in relation to other states and their interests.

The jurisprudential foundations of flag state jurisdiction were elaborated by the Permanent Court of International Justice in the Lotus Case of 1927, decided in the context of a collision on the high seas between a French and a Turkish ship. Although the principal question in that case was the extent of Turkish criminal jurisdiction over a French officer whose navigational error had caused the collision, the case also confirmed the principle that the flag state exercises exclusive jurisdiction over a ship on the high seas, subject to specific exceptions recognised by international law. The PCIJ's controversial holding, that jurisdiction is permitted wherever it is not expressly prohibited by international law (the negative permissive principle), has been much debated in subsequent scholarship, but the foundational principle of flag state jurisdiction that the case confirmed has endured.

UNCLOS Articles 91 to 94 set out the contemporary legal framework for flag state jurisdiction. Article 91 provides that every state shall fix the conditions for the grant of its nationality to ships, and that there must exist a genuine link between the state and the ship. The requirement of a genuine link, which was first articulated in the International Court of Justice's judgment in the Nottebohm Case of 1955 (in the context of nationality of persons rather than ships), has been the subject of extensive debate in the law of the sea. The 1986 United Nations Convention on Conditions for Registration of Ships, which attempted to give content to the genuine link requirement by specifying conditions of ownership, manning, and management, never entered into force. The content of the genuine link requirement in relation to ships therefore remains uncertain, and the practice of open registries, under which ships are registered in states with which their owners have no substantial connection, has flourished in this legal vacuum.

The phenomenon of open registries, sometimes called flags of convenience, has been one of the most controversial features of the international shipping industry since the mid-twentieth century. States offering open registries, including Panama, Liberia, the Marshall Islands, and the Bahamas, provide registration services to ship owners of any nationality on commercial terms, without requiring any substantial connection between the owner and the flag state. Ship owners find open registries attractive because they typically offer lower registration costs, less stringent regulatory requirements, the ability to employ seafarers from low-wage countries, and freedom from the restrictions of the flag state's domestic labour and social security law. The shipping industry has moved overwhelmingly toward open registry shipping: as of the most recent data available, more than seventy percent of world merchant fleet tonnage is registered under flags of convenience.

The legal and ethical implications of this development are profound. The erosion of the genuine link principle has weakened the flag state's political motivation to enforce international standards, since the flag state has no significant political or economic interest in most of the

ships flying its flag. The concentration of ships in a small number of open registry states has meant that the shipping of the world is regulated primarily by states whose capacity and political will to enforce international standards may be limited. And the ability of ship owners to choose their flag state on the basis of regulatory stringency, or lack thereof, has created a race to the bottom in which open registry states compete for registrations by offering the most attractive (that is, least stringent) regulatory environment.

The response of the international community to the failures of flag state jurisdiction has been the development of the port state control system, through which states exercise jurisdiction over foreign ships in their ports as a supplement to (and in some cases a substitute for) effective flag state enforcement. The port state control system is discussed in detail in a subsequent chapter of this Part.

1.5 The Historical Development of Maritime Labour Law: From Impressment to Convention

The legal status of seafarers at work has been among the most contentious and politically charged aspects of maritime law throughout its history. The sea voyage was, for most of maritime history, among the most dangerous and arduous forms of work that human beings undertook. Sailors were exposed to extreme weather, disease, malnutrition, brutal discipline, and the ever-present risk of drowning, shipwreck, or capture by pirates or enemy naval forces. The legal status of sailors reflected these realities in ways that were often brutal: sailors could be impressed into naval service against their will, flogged for minor infractions of discipline, subject to desertion prosecuted as a criminal offence, and required to serve under contract terms that would in any other context be recognised as conditions of near-servitude.

The gradual improvement in the legal status of seafarers was one of the major achievements of the social reform movements of the nineteenth century. In the United Kingdom, Samuel Plimsoll's campaign against the overloading of ships, which resulted in the Merchant Shipping Act of 1876 and the establishment of the Plimsoll line (the load line mark on the side of ships indicating the maximum safe loading depth), was perhaps the most dramatic expression of the movement for seafarers' safety and welfare. Plimsoll's campaign, which drew on evangelical Christian ethics, liberal political philosophy, and a raw outrage at the exploitation of poor sailors by profit-seeking ship owners, illustrated the deep connection between maritime law reform and broader movements for social justice that this commentary emphasises.

The International Labour Organization (ILO), established in 1919 as part of the Versailles Peace Settlement, from its earliest years adopted conventions specifically addressing the working conditions of seafarers. The ILO's jurisdiction over maritime labour was recognised in the ILO Constitution, and the ILO has developed over the course of a century a comprehensive body of maritime labour standards that has been progressively consolidated into the Maritime Labour Convention of 2006, which is discussed in detail in a subsequent chapter of this Part. The ILO's engagement with maritime labour law illustrates a broader jurisprudential point about the relationship between international labour standards and international economic law: the competitive pressures of an international market that operates across national boundaries require

international minimum standards to prevent the social dumping that would occur if each state's labour law were the only applicable standard.

The theoretical relationship between maritime labour law and the broader body of international labour law has been a source of ongoing scholarly interest. The maritime sector raises particular challenges for the application of labour standards because of the inherently international character of shipping: a ship may be owned by a Greek company, registered in Panama, managed by a German ship management company, chartered by a Korean cargo owner, crewed by Filipino and Indian seafarers, carrying Chinese goods to European ports. In this complex web of relationships, the application of any single state's labour law is both legally problematic and practically difficult. The international maritime labour law framework, as developed by the ILO in the MLC 2006 and its predecessor conventions, addresses this challenge by establishing a set of minimum standards that apply regardless of the nationality of the ship or the workers, enforced through a combination of flag state and port state control mechanisms.

CHAPTER 2: SOLAS, MARPOL, STCW, AND THE IMO REGULATORY FRAMEWORK - BANGLADESH'S RATIFICATION AND IMPLEMENTATION RECORD

2.1 The International Convention for the Safety of Life at Sea (SOLAS)

The International Convention for the Safety of Life at Sea, universally known by its acronym SOLAS, is the most important of the IMO's conventions dealing with the safety of ships. Its origins lie in the catastrophe of the Titanic, whose sinking in April 1912 with the loss of more than 1,500 lives demonstrated in the most dramatic way the inadequacy of the voluntary safety standards that had previously governed maritime navigation. The first SOLAS convention was adopted in 1914, and subsequent versions were adopted in 1929, 1948, 1960, and 1974. The current version, SOLAS 1974 as amended, is the governing instrument, and it has been substantially amended on numerous occasions to reflect advances in maritime technology, the emergence of new types of ships and operations, and lessons learned from subsequent maritime accidents.

SOLAS prescribes minimum standards for the construction, equipment, and operation of ships. Its twelve chapters address the survey and certification of ships, construction (including fire protection, fire detection, and firefighting equipment), life-saving appliances and arrangements, radiocommunications, safety of navigation, carriage of cargoes, carriage of dangerous goods, nuclear ships, management for the safe operation of ships (the ISM Code), high-speed craft, bulk carrier safety, and additional safety measures for bulk carriers. The convention applies primarily to ships engaged on international voyages, but many of its technical standards have been adopted by flag states as the applicable standard for domestic shipping as well.

Bangladesh ratified SOLAS 1974 in 1983, and has accepted a number of subsequent amendments through the tacit acceptance procedure. The tacit acceptance procedure, introduced in SOLAS 1974, allows amendments to the Convention to enter into force for all contracting

parties unless a specified number of parties notify their objection within a specified period. This procedure has greatly facilitated the updating of the convention but it also raises a jurisprudential issue: it means that states may find themselves bound by amendments they have not explicitly accepted, an arrangement that sits uneasily with the traditional consensualist foundation of international treaty law. Bangladesh has not consistently availed itself of its right to object to specific amendments under the tacit acceptance procedure, which means that it is in principle bound by the full current text of SOLAS as amended, including amendments that were adopted before Bangladesh had the institutional capacity to fully implement them.

The implementation of SOLAS in Bangladesh is the responsibility of the Department of Shipping (DOS) under the Ministry of Shipping, which serves as the maritime administration responsible for the survey and certification of ships registered under the Bangladeshi flag and for the port state control inspection of foreign ships in Bangladeshi ports. The DOS issues certificates of survey and fitness to Bangladeshi ships in accordance with SOLAS requirements, and it authorises a number of classification societies, including Lloyd's Register, Bureau Veritas, and the American Bureau of Shipping, to conduct surveys and issue certificates on its behalf under Recognized Organization (RO) agreements.

The practical adequacy of Bangladesh's SOLAS implementation has been the subject of concern in the international maritime community. The IMO's Voluntary IMO Member State Audit Scheme (VIMSAS), which became mandatory under the IMO member state audit scheme from 2016 onward, is designed to assess the implementation of IMO instruments by member states. Bangladesh's audit results and the degree to which identified deficiencies have been corrected are matters of public record, and they indicate areas where the administrative capacity and legislative framework for SOLAS implementation require strengthening. The Paris Memorandum of Understanding (MOU) on Port State Control, whose geographic scope does not cover the Bay of Bengal, and the Tokyo MOU, which covers the Asia-Pacific region and of which Bangladesh is a member, both publish annual statistics on the detention of ships, and the performance of ships flying the Bangladeshi flag in port state control inspections in foreign ports is a relevant indicator of the effectiveness of Bangladesh's flag state implementation of SOLAS standards.

2.2 MARPOL and the Prevention of Pollution from Ships

The International Convention for the Prevention of Pollution from Ships, known as MARPOL, is the IMO's principal convention for the prevention of marine pollution by ships. It was adopted in 1973 and modified by a protocol in 1978, and it is referred to as MARPOL 73/78. It consists of six Annexes, each addressing a different category of pollutant: Annex I covers oil; Annex II covers noxious liquid substances in bulk; Annex III covers harmful substances in packaged form; Annex IV covers sewage from ships; Annex V covers garbage from ships; and Annex VI covers air pollution, including sulphur oxides, nitrogen oxides, and greenhouse gas emissions from ships.

The adoption of Annex VI and its subsequent amendments to progressively tighten the restrictions on sulphur emissions from ships and to establish Energy Efficiency Design Index (EEDI) requirements for new ships represents one of the most significant developments in the IMO's regulatory agenda in recent decades. The IMO's Initial Strategy on Reduction of GHG

Emissions from Ships, adopted in 2018 and revised in 2023, sets out ambitions for the decarbonisation of the shipping industry, including a target of achieving net-zero greenhouse gas emissions from international shipping by or around 2050. The 2023 IMO Strategy is a landmark in the development of international shipping law, representing the first time that the international shipping community has committed itself to a decarbonisation trajectory aligned with the goals of the Paris Agreement. The implications of this strategy for Bangladesh, both as a flag state with responsibilities for the energy efficiency of its fleet and as a developing state that may be significantly affected by the transition to zero-emission shipping, are substantial and are discussed in detail below.

Bangladesh ratified the original MARPOL convention (Annexes I and II) in 1984 and has subsequently ratified Annexes III, IV, V, and VI. The implementation of MARPOL in Bangladesh requires the DOS to ensure that ships registered under the Bangladeshi flag carry the required MARPOL certificates, that ships are equipped with the required pollution prevention equipment (including oil record books, garbage management plans, and sewage treatment systems), and that adequate port reception facilities exist at Bangladeshi ports for the reception of ships' wastes without charge. The availability of adequate port reception facilities is a significant practical challenge: the provision of facilities for oil residues, sewage, and garbage at Chittagong and Mongla ports is reportedly inadequate, which creates both a legal compliance problem and an incentive for ships to conduct illegal discharges at sea.

The regulation of air pollution from ships under MARPOL Annex VI is particularly significant in the context of the Bay of Bengal, since the dense shipping traffic through the Malacca Strait and the Bay of Bengal generates substantial air pollution that affects coastal communities in Bangladesh and other littoral states. The IMO's Emission Control Areas (ECAs), which impose particularly stringent standards on sulphur and nitrogen oxide emissions in designated sea areas, do not currently include the Bay of Bengal. Bangladesh, together with other Bay of Bengal states, could advocate for the designation of the Bay of Bengal as an ECA, which would require ships transiting the bay to use lower-sulphur fuels and to comply with stricter emission standards, with significant benefits for air quality and public health in the coastal zones.

2.3 STCW and the Standards for Seafarers

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), adopted in 1978 and fundamentally revised by the Manila Amendments of 2010, establishes the minimum standards of competence for seafarers, including the requirements for training, examination, certification, and watchkeeping. STCW is central to the governance of the global seafarer labour market, since it establishes the credentials that seafarers must hold to work on internationally trading ships, and the certification of seafarers in accordance with STCW requirements is a prerequisite for the recognition of their certificates by other states and for the employment of those seafarers on foreign-flagged ships.

Bangladesh ratified STCW in 1988 and the Manila Amendments in 2012. Bangladesh is one of the major suppliers of seafarers to the global shipping industry, with approximately 65,000 to 80,000 Bangladeshi seafarers reportedly active in the industry, serving predominantly in officer and rating positions on ships of various nationalities. The certification and training of

Bangladeshi seafarers is the responsibility of the DOS and of a network of maritime training institutions, the most significant of which is the Bangladesh Marine Academy (BMA) at Chittagong, which is the premier maritime education institution in Bangladesh.

The quality of seafarer training and certification in Bangladesh has been a matter of international concern. The European Maritime Safety Agency (EMSA), which assesses the seafarer certification systems of third countries for the purpose of recognising those systems under the EU's manning requirements, conducts periodic inspections of the Bangladeshi system. The results of these inspections, which are publicly available, have identified deficiencies in the examination and certification process and in the practical training facilities available at Bangladeshi maritime institutions. The EU's recognition of Bangladesh's seafarer certification system has been periodically reviewed and, in some cases, conditioned on the correction of identified deficiencies. The maintenance of EU recognition is important for Bangladeshi seafarers because it determines their eligibility to work on EU-flagged ships and on ships calling at EU ports, which together constitute a large portion of the global shipping market.

The reform of Bangladesh's maritime education and training system, and the strengthening of the DOS's capacity for the certification and oversight of seafarers, is accordingly an important dimension of the broader maritime law reform agenda. The Manila Amendments to STCW, which introduced enhanced requirements for training in medical first aid, personal survival techniques, elementary first aid, and personal safety and social responsibilities, also introduced a requirement for refresher training and the continuous maintenance of STCW competences. The domestic legal framework for ensuring that Bangladeshi seafarers maintain their STCW competences throughout their careers, rather than simply obtaining certificates at the beginning of their careers and allowing them to lapse, requires strengthening.

2.4 The International Ship and Port Facility Security (ISPS) Code

The International Ship and Port Facility Security Code, adopted by SOLAS in 2002 in the aftermath of the September 11 attacks in the United States, establishes a comprehensive framework for the security of ships and port facilities. The code is mandatory for ships engaged on international voyages and for port facilities serving such ships, and it requires ships and port facilities to develop, implement, and maintain security plans, to designate security officers with defined responsibilities, and to conduct security assessments. It also establishes a system of three security levels that can be set by national governments in response to threats, with escalating security requirements at higher threat levels.

Bangladesh has implemented the ISPS Code through the Maritime Security Directorate, which is responsible for conducting security assessments of port facilities, approving port facility security plans, and verifying the security arrangements of ships and port facilities. The principal port facilities at Chittagong and Mongla are ISPS Code compliant, having received the required Statements of Compliance from the designated national authority. However, the broader network of smaller ports and ghats (landing points) along Bangladesh's extensive coastline and inland waterways presents significant security challenges that the ISPS Code framework does not fully address. The governance of maritime security in the context of Bangladesh's complex coastal geography, with its hundreds of small ports and landing points and its thousands of small fishing

and commercial vessels, requires a more comprehensive approach than the ISPS Code alone provides.

2.5 The IMO's 2023 GHG Strategy and Its Implications for Bangladesh

The IMO's Revised GHG Strategy, adopted at the seventy-eighth session of the Marine Environment Protection Committee (MEPC 78) in July 2023, represents a significant tightening of the IMO's ambitions for the decarbonisation of international shipping. The Strategy sets a target of achieving net-zero GHG emissions from international shipping by or around 2050, aspirational goals of reducing total annual GHG emissions from shipping by at least 20% compared to 2008 levels by 2030 and by at least 70% by 2040, and a commitment to ensuring that the uptake of zero or near-zero GHG emission fuels represents at least 5% (striving for 10%) of the energy used by international shipping by 2030.

The implications of this strategy for Bangladesh as a flag state and as a developing nation are multifaceted and complex. As a flag state, Bangladesh will be required to ensure that ships registered under its flag comply with the new energy efficiency and decarbonisation requirements that the IMO will adopt to implement the 2023 Strategy, including the Carbon Intensity Indicator (CII) regulations already in force, the Energy Efficiency Existing Ship Index (EEXI) requirements, and future regulations that are likely to include a global fuel standard or carbon pricing mechanism. The Bangladeshi fleet, which consists primarily of smaller vessels operating in the coastal and regional trades, may be disproportionately affected by these requirements, since the costs of retrofitting existing ships with energy-efficient technologies and the costs of zero-carbon fuels (such as green hydrogen, green ammonia, and e-methanol) are likely to be higher for smaller vessels relative to their earning capacity.

As a developing state, Bangladesh has a legitimate interest in ensuring that the transition to zero-emission shipping does not impose disproportionate costs on developing nations and does not undermine the competitive position of developing country shipping industries relative to those of technologically and financially advanced states. The principle of Common But Differentiated Responsibilities (CBDR), which is a cornerstone of international environmental law and is enshrined in the UNFCCC and the Paris Agreement, has been applied only cautiously in the IMO context, since the IMO's mandate does not include development assistance and since the adoption of differentiated standards for ships from developing countries would undermine the flag state system by creating an incentive to register ships under developing country flags to avoid stricter standards.

Bangladesh should be an active and informed participant in the IMO's ongoing work on the technical and financial measures to implement the 2023 GHG Strategy, advocating for arrangements that protect the interests of developing flag states and seafarer supply states, including access to the transition fund being considered by the IMO, capacity building support for the adoption of new technologies, and phased implementation timelines that take account of the different starting points of developed and developing states.

CHAPTER 3: THE MARITIME LABOUR CONVENTION OF 2006 AND THE RIGHTS OF BANGLADESHI SEAFARERS

3.1 The Architecture and Philosophy of the MLC 2006

The Maritime Labour Convention of 2006, which entered into force on 20 August 2013 and is often described as the "fourth pillar" of international maritime law alongside SOLAS, MARPOL, and STCW, represents the most ambitious codification of maritime labour standards in the history of international law. It consolidates thirty-seven pre-existing ILO maritime labour conventions, incorporating their provisions into a comprehensive instrument that is structured in a unique hybrid format combining traditional article-by-article treaty provisions with more flexible standard-setting through regulations, standards, and guidelines.

The MLC 2006's philosophical foundations reflect a sophisticated balance between the competing imperatives of maritime commerce and workers' rights. The Convention embodies the principle that the seafarers of the world, who perform an indispensable service to the global economy, are entitled to decent working and living conditions that protect their health, safety, and human dignity. This principle draws on the fundamental values of the International Labour Organization, including the concept of decent work, and on the human rights tradition, which recognises that all workers, regardless of nationality, industry, or location, are entitled to a set of basic rights that cannot be waived by contract.

The MLC 2006 is organised around five Titles addressing minimum age requirements for seafarers, conditions of employment (including wages, hours of work, and annual leave), accommodation, recreation facilities, food and catering, health protection, medical care, welfare, and social security protection. Each Title contains Regulations that are binding, Standards in Part A that are also binding, and Guidelines in Part B that are recommendatory. This structure is intended to provide a balance between the precision needed for effective enforcement and the flexibility needed to accommodate the diversity of national legal systems and maritime industry practices.

The enforcement mechanism of the MLC 2006 is its most innovative and practically significant feature. It establishes a system of flag state inspection and certification, under which ships to which the Convention applies are required to carry a Maritime Labour Certificate (MLC Certificate) issued by the flag state administration, and a Declaration of Maritime Labour Compliance (DMLC) specifying how the flag state implements the MLC 2006's requirements and how the ship owner ensures compliance on the ship. Port state control officers in ports around the world inspect ships for MLC 2006 compliance, and ships found to be in serious breach of the Convention's requirements can be detained until the deficiencies are corrected.

The port state control enforcement mechanism of the MLC 2006 has proven to be a powerful tool for the improvement of seafarers' working conditions. Ships with sub-standard working conditions can now be detained not only for technical safety deficiencies (under SOLAS and MARPOL) but for labour deficiencies, including unpaid wages, inadequate food and water, insufficient rest periods, and failure to provide proper medical care. This development has

significantly strengthened the practical protection of seafarers' rights, since the financial cost of detention provides ship owners with a strong incentive to comply.

From a jurisprudential perspective, the MLC 2006 raises interesting questions about the relationship between international labour law and international maritime law, between the ILO and the IMO, and between the positivist consent-based framework of treaty law and the more substantive rights-based framework of labour and human rights law. The Convention represents an attempt to translate the aspirational language of human rights into the operational language of maritime regulation, and its relative success in achieving this translation is a model that the broader field of international labour law might profitably study.

3.2 Bangladesh's Ratification and Implementation of the MLC 2006

Bangladesh ratified the Maritime Labour Convention of 2006 on 15 September 2014, becoming one of the earlier developing states to do so. The ratification of the MLC 2006 created a comprehensive set of obligations for Bangladesh both as a flag state (to ensure that ships flying the Bangladeshi flag comply with the Convention's requirements) and as a port state (to inspect foreign ships in Bangladeshi ports for MLC 2006 compliance and to take action when serious deficiencies are found).

The domestic implementation of the MLC 2006 in Bangladesh has been incomplete and, in important respects, inadequate. The principal implementing legislation is the Merchant Shipping Ordinance of 1983, as amended, and a number of subsidiary regulations made thereunder. The Merchant Shipping Ordinance predates the MLC 2006 and was not drafted with the Convention's specific requirements in mind; its provisions on seafarers' employment conditions, accommodation, food, and medical care do not fully reflect the MLC 2006's standards, and the enforcement mechanisms for labour standards on ships are significantly weaker than those for technical safety standards.

The Department of Shipping has issued guidance and circulars on MLC 2006 implementation, and it inspects Bangladeshi ships for MLC 2006 compliance as part of the flag state inspection regime. However, the DOS's capacity for MLC 2006 inspection is limited, and the documentation and certification process for MLC 2006 compliance on Bangladeshi ships is not always consistent. The Declaration of Maritime Labour Compliance, which is a central document in the MLC 2006 framework, requires the flag state administration to specify how it implements each of the MLC 2006's requirements in its national laws and regulations; the quality and accuracy of this documentation on Bangladeshi ships reflects the adequacy of the underlying domestic legal framework.

A particularly significant gap in Bangladesh's MLC 2006 implementation concerns the social security provisions of Title IV. The Convention requires flag states to ensure that seafarers have access to social security protection covering medical care, sickness benefit, unemployment benefit, old-age benefit, employment injury benefit, family benefit, maternity benefit, invalidity benefit, and survivors' benefit. The specific benefits required are determined by the specific social security legislation of the flag state, but the Convention requires that at least three of the nine branches of social security be covered. Bangladesh's social security system, which is less

developed than those of many other flag states, may not provide adequate coverage in all of these areas for seafarers working on Bangladeshi-flagged ships.

The rights of Bangladeshi seafarers working on foreign-flagged ships, as distinct from Bangladeshi-flagged ships, raise different legal questions. When a Bangladeshi seafarer works on a foreign-flagged ship, the MLC 2006's requirements are the responsibility of the flag state (whose flag the ship flies) rather than Bangladesh. Bangladesh's role in this context is primarily as a "seafarer supplying country" rather than as a flag state, and its responsibilities concern the quality of seafarer training and certification, the content of seafarers' employment agreements, and the assistance provided to seafarers who experience difficulties, including wage claims, abandonment, and repatriation. The domestic legal framework for the exercise of these responsibilities, and the institutional capacity for their enforcement, require strengthening.

3.3 Wage Theft, Abandonment, and the Crisis of Seafarers' Rights: Bangladesh in the Global Context

Among the most serious violations of seafarers' rights that occur in international shipping are the non-payment of wages and the abandonment of seafarers in foreign ports, a situation in which ship owners leave seafarers stranded without wages, repatriation, or adequate food and water. The ITF (International Transport Workers' Federation), which maintains inspectors in major ports around the world to identify and address such situations, and the IMO's database of reported cases of abandonment, document a persistent pattern of ship owners and managers exploiting the vulnerability of seafarers, particularly those from developing countries with limited legal recourse.

Bangladeshi seafarers are among those most commonly reported as victims of wage theft and abandonment, a reflection of both the large number of Bangladeshi seafarers in the global fleet and the relative vulnerability of seafarers from developing countries whose governments may lack the legal and diplomatic capacity to provide effective assistance. The MLC 2006's financial security requirements, which entered into force through amendments to the Convention in 2017, require ships to carry financial security (such as insurance) to cover claims for wage arrears and repatriation in cases of abandonment. These requirements provide a mechanism for the recovery of unpaid wages and the repatriation of abandoned seafarers, but their effectiveness depends on the flag state's enforcement of the financial security requirements and on the port state's willingness to facilitate the claims process when abandoned seafarers are in its ports.

Bangladesh's legal framework for dealing with cases where Bangladeshi seafarers are abandoned in foreign ports, or where Bangladeshi seafarers on Bangladeshi-flagged ships in foreign ports have not been paid their wages, is not comprehensively developed. The Ministry of Foreign Affairs and the Ministry of Shipping have some capacity to respond to individual cases through diplomatic channels, but there is no systematic legal and administrative framework that ensures prompt and effective assistance to abandoned seafarers, facilitates the assertion of wage claims against ship owners and their financial security providers, and provides for the repatriation of abandoned seafarers at public expense where the financial security mechanism fails.

The problem of wage theft extends to the domestic context as well. Bangladeshi seafarers employed on domestic (coastwise) shipping and on inland waterways are not protected by the MLC 2006, which applies only to ships engaged in international voyages. Their employment conditions are governed by domestic labour law and by the specific provisions of the Merchant Shipping Ordinance. The quality of employment conditions on small coastal vessels and river boats in Bangladesh is a matter of documented concern, with reports of irregular wage payments, excessive working hours, inadequate safety equipment, and absence of health and accident insurance.

3.4 Philosophical and Human Rights Dimensions of Seafarers' Rights

The discussion of seafarers' rights requires engagement with the deeper philosophical questions about the moral foundations of labour rights and their application to workers who spend their working lives in a unique legal and physical environment. The standard philosophical frameworks for labour rights draw on several different theoretical traditions that arrive at broadly similar conclusions through different routes.

The Kantian tradition grounds workers' rights in the principle of respect for persons as ends in themselves, not merely means. Kant's categorical imperative, which requires us to treat humanity, whether in our own person or in that of any other, always as an end and never merely as a means, provides a philosophical foundation for the proposition that seafarers, as human beings, are entitled to be treated with dignity and not merely as instruments for the production of profit. The exploitation of seafarers through wage theft, brutal working conditions, excessive hours, and abandonment violates this Kantian principle, and the legal prohibition of such exploitation is accordingly a moral imperative and not merely a matter of policy preference.

The Rawlsian framework provides a different but complementary justification. John Rawls's theory of justice, which requires that social and economic arrangements be evaluated from behind a veil of ignorance, under which we do not know what position we will occupy in society, generates a strong presumption in favour of arrangements that protect the most vulnerable members of the labour market. Seafarers, who work in an isolated and physically dangerous environment, far from their families and from the legal protections of their home country, are among the most vulnerable workers in the global economy. A Rawlsian analysis would require that the legal framework governing seafarers' employment be designed with the interests of the most vulnerable seafarers in mind, providing strong protections against exploitation, ensuring access to legal remedies, and requiring minimum standards that cannot be traded away by contractual agreement.

The capabilities approach of Amartya Sen and Martha Nussbaum adds a further dimension by focusing on the actual capabilities of seafarers to lead dignified lives. The physical isolation of life at sea, the power imbalance between a seafarer confined to a ship far from home and a ship owner or manager who controls the seafarer's wages, repatriation, and working conditions, and the absence of effective legal remedies in many jurisdictions create conditions in which seafarers' fundamental capabilities are systematically impaired. The legal framework for maritime labour should accordingly be evaluated not merely by whether it establishes the right set of formal

rights but by whether it actually enables seafarers to exercise those rights and to lead lives consistent with human dignity.

The human rights dimension of seafarers' rights is increasingly recognised in international law. The UN Guiding Principles on Business and Human Rights, adopted by the UN Human Rights Council in 2011, impose responsibilities on states to protect against human rights abuses by businesses and on businesses to respect human rights in their operations. Applied to the shipping industry, these principles create responsibilities for flag states to ensure that ships flying their flags do not violate the human rights of their crews, for port states to address human rights abuses on ships in their ports, and for shipping companies to conduct human rights due diligence throughout their supply chains, including the supply chains for seafarer recruitment and employment.

For Bangladesh, the human rights dimension of maritime labour law reform is particularly significant given the large number of Bangladeshi seafarers employed in the global fleet. Bangladesh has a national action plan on business and human rights in preparation, and this plan should specifically address the maritime labour dimension, including the responsibilities of recruitment agencies that supply Bangladeshi seafarers to the global fleet, the role of the DOS in ensuring that Bangladeshi seafarers' rights are protected on foreign-flagged as well as Bangladeshi-flagged ships, and the mechanisms for accountability when those rights are violated.

CHAPTER 4: PORT STATE CONTROL - LEGAL FOUNDATIONS, PRACTICE, AND BANGLADESH'S ROLE

4.1 The Development of Port State Control as an International Legal Concept

Port state control (PSC) is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment complies with the requirements of international regulations and that the ship is manned and operated in compliance with those requirements. It represents a significant departure from the classical principle of flag state exclusivity on the high seas, because it subjects foreign ships to the regulatory authority of the port state while those ships are in port. The theoretical and doctrinal basis for this authority is clear: a ship in a foreign port is within the territorial jurisdiction of the port state, and the port state's authority to regulate activities within its territory extends to ships in its ports, subject to the diplomatic and treaty obligations that may limit the scope of this authority.

The development of port state control as a systematic international mechanism was driven by the recognition, from the 1970s onward, that flag state enforcement of international maritime standards was inadequate. Many flag states, particularly open registry states, lacked the capacity, the incentive, or the political will to ensure that ships flying their flag met international safety and environmental standards. The result was a fleet of substandard ships that posed risks to their crews, to other ships, to the marine environment, and to the coastal communities adjacent to shipping lanes and ports. The response of the international community was to develop a

supplementary enforcement system based on the authority of port states, which have a stronger economic and political interest in ensuring that ships using their ports are safe and environmentally compliant.

The first formal port state control arrangements were the Paris Memorandum of Understanding on Port State Control, signed in 1982 by fourteen European states, and the Tokyo Memorandum of Understanding on Port State Control in the Asia-Pacific Region, signed in 1993 by eighteen states. These Memoranda of Understanding are not binding international treaties but are political agreements among states committing them to coordinated port state control inspection programmes, including the sharing of inspection information, the maintenance of databases of deficiency records, and the targeting of inspections at high-risk ships. As of 2025, there are nine regional port state control MOUs operating globally, covering virtually all major shipping routes and port states, and they represent one of the most successful examples of soft law mechanisms producing effective regulatory outcomes in international maritime law.

Bangladesh is a member of the Tokyo MOU on Port State Control, which covers the Asia-Pacific region. The Tokyo MOU's membership includes all the major port states of the region, including China, Japan, Australia, India, and the major Southeast Asian states. Member states commit to conducting PSC inspections of foreign ships in their ports at a specified rate, to reporting the results of inspections to the MOU database (known as APCIS), and to detaining ships that are found to have serious deficiencies that pose a risk to safety, health, or the environment. The Tokyo MOU publishes an annual report on the performance of its member state PSC inspection programmes and on the performance of ships by flag state, which provides a measure of comparative accountability.

Bangladesh's implementation of its Tokyo MOU commitments has been constrained by its institutional capacity for PSC inspections. The DOS has a limited number of qualified PSC officers, and the volume of foreign ships calling at Bangladeshi ports creates inspection demands that exceed the available capacity. The quality and consistency of PSC inspections at Bangladeshi ports is accordingly variable, and there are concerns that the PSC inspection programme does not effectively identify and detain substandard ships. This is both a safety concern and a reputational concern: Bangladesh's effectiveness as a port state is a dimension of its standing in the international maritime community.

4.2 The Legal Basis and Scope of Port State Jurisdiction

The legal basis of port state jurisdiction over foreign ships, and its relationship to flag state jurisdiction, is a question of some theoretical complexity. UNCLOS Article 25 confirms that the coastal state has the right to take necessary steps to prevent any breach of the conditions to which admission of foreign ships to its internal waters is subject. Article 218 provides that when a ship is voluntarily within a port or at an offshore terminal of a state, that state may undertake investigations and institute proceedings in respect of any discharge from that ship outside the internal waters, territorial sea, or EEZ of that state in violation of applicable international rules and standards. Article 219 provides that states may take administrative measures to prevent the sailing of ships which have violated applicable international regulations and which are in port or at an offshore terminal.

These UNCLOS provisions, supplemented by the specific enforcement provisions of SOLAS, MARPOL, STCW, and the MLC 2006, provide the international legal foundation for port state control. But the scope of port state jurisdiction is subject to certain limitations. A port state may not require a foreign ship to comply with standards more stringent than the relevant international standards as a condition of port entry, unless the stricter standards are imposed on all ships (domestic and foreign) and serve a legitimate regulatory purpose. The port state may not discriminate between ships from different flag states in its PSC inspection programme (though risk-based targeting is permissible). And the port state must release a ship that has been detained as soon as the deficiencies that gave rise to the detention have been corrected, consistent with the prompt release provisions of UNCLOS Article 226.

The practical application of port state control jurisdiction raises significant discretionary judgments that PSC officers must make in the course of their inspections. The decision to detain a ship for deficiencies requires a judgment that the deficiencies are serious enough to justify detention and that they represent an unacceptable risk to safety, health, or the environment. This judgment involves both technical expertise and legal judgment, and it is inevitably influenced by the institutional culture and the individual experience of the PSC officer conducting the inspection. The training and qualification of PSC officers, and the development of consistent standards for the exercise of the detention decision, are accordingly important elements of an effective PSC programme.

4.3 Bangladesh as a Port State: Challenges and Reform Needs

Bangladesh's port state control performance reflects broader challenges of institutional capacity, legislative adequacy, and administrative effectiveness. The DOS is responsible for PSC inspections at Bangladeshi ports, but its resources are stretched across the full range of its functions as the maritime administration, including flag state functions (survey and certification of Bangladeshi ships, certification of Bangladeshi seafarers), port state functions (PSC inspections of foreign ships), and regulatory functions (development and enforcement of maritime safety and environmental regulations).

Several specific deficiencies in Bangladesh's PSC programme can be identified. First, the number of qualified PSC officers is inadequate for the volume of foreign ships calling at Bangladeshi ports. Chittagong is one of the busiest ports in South Asia, and the number of foreign ships requiring PSC inspection is substantial. The DOS's capacity to inspect more than a fraction of foreign ships calling at the port is limited, which means that many substandard ships may be escaping inspection. The Tokyo MOU's target inspection rate and the risk-based targeting criteria should be applied more effectively to concentrate inspection resources on the highest-risk ships.

Second, the legal framework for PSC enforcement in Bangladesh does not clearly specify the procedural rights of ship operators when their ships are detained, the grounds for detention and the standards of review, or the procedures for appeal. The domestic legislation does not fully reflect the prompt release provisions of UNCLOS Article 226 or the procedural safeguards required by the MLC 2006. These procedural gaps create legal uncertainty for ship operators and

may expose Bangladesh to legal challenges if the detention of foreign ships is challenged in international proceedings.

Third, the coordination between PSC inspection and other maritime enforcement activities, including customs, immigration, environmental regulation, and maritime security, is not well integrated. A foreign ship in a Bangladeshi port may be subject to inspection by officers from multiple agencies with different mandates, creating coordination problems and potential duplication of effort. An integrated maritime inspection regime, coordinating the activities of the DOS, the customs authority, the immigration authority, and the Bangladesh Coast Guard, would improve the efficiency and effectiveness of maritime enforcement at Bangladeshi ports.

Fourth, the quality of PSC inspection reports and the maintenance of the PSC database in Bangladesh requires improvement. Accurate and comprehensive PSC inspection records are essential for the operation of the risk-based targeting system under the Tokyo MOU and for the identification of patterns of non-compliance that require flag state attention. The domestic PSC database should be maintained in a format compatible with the Tokyo MOU's APCIS database and should be regularly audited for quality and completeness.

4.4 The Interaction of Port State Control and Flag State Jurisdiction: Theoretical Tensions

The coexistence of port state control with flag state jurisdiction creates theoretical tensions that have been the subject of extensive scholarly analysis. The traditional view of international maritime law was that the flag state exercised exclusive jurisdiction over its ships on the high seas, subject only to specific and limited exceptions such as the right of visit for piracy or slave trading. The development of port state control represents a significant qualification of this exclusive flag state jurisdiction, not on the high seas (where the principle of exclusive flag state jurisdiction still applies) but in the port, where the flag state's jurisdiction coexists with the territorial jurisdiction of the port state.

This coexistence of jurisdictions creates the possibility of conflict where the flag state and the port state take different views on whether a ship meets the relevant international standards. The international law framework addresses this conflict primarily through the reference to international standards as the applicable benchmark: both flag state and port state are required to apply the same international standards (as embodied in the relevant IMO and ILO conventions), and neither is entitled to apply higher or lower standards unilaterally. In practice, however, differences in interpretation of international standards, differences in the technical judgments of flag state surveyors and port state control officers, and differences in the regulatory culture and enforcement priorities of different maritime administrations create ongoing friction between flag state and port state authority.

The concept of the "genuine link" between flag state and ship, discussed in Chapter 1 of this Part, is relevant here as well. If the flag state has a genuine and substantial connection with the ship, it is more likely to have the interest and the information necessary to ensure that the ship meets international standards. If the flag state is a flag of convenience with no substantial connection to the ship, the port state may be the only realistic mechanism for ensuring that the ship is operated safely and in compliance with international environmental standards. This

analysis supports a stronger and more active role for port state control in the governance of the international shipping industry, particularly for ships registered under open registries.

CHAPTER 5: SHIP RECYCLING, THE HONG KONG CONVENTION, AND THE SITAKUNDA CRISIS

5.1 The Ship Recycling Industry: Economic Significance and Environmental Crisis

Ship recycling, the process of dismantling end-of-life ships to recover steel and other materials, is one of the most significant and most controversial dimensions of the international shipping industry. At the end of their commercial lives, the world's ships must be disposed of, and the preferred method, because it recovers valuable materials and avoids the costs of disposal, is recycling. The global ship recycling industry is concentrated in a small number of South Asian countries, specifically Bangladesh, India, Pakistan, and Turkey, which collectively account for the great majority of the gross tonnage recycled annually.

Bangladesh's ship recycling industry, concentrated at Sitakunda, a coastal strip approximately twenty to forty kilometres north of Chittagong, is one of the largest in the world by volume of tonnage recycled. The industry employs an estimated 25,000 to 30,000 workers, the majority of them migrant workers from the poorer districts of Bangladesh, supplemented by a smaller number of skilled technical workers. It contributes approximately 5% to 10% of Bangladesh's total steel production from the recycled metal recovered from decommissioned ships. It is, in short, a major economic activity with significant implications for both the national economy and the livelihoods of its workers.

The environmental and safety record of the Bangladeshi ship recycling industry has been, by any objective assessment, appalling. Ships arriving for recycling at Sitakunda typically contain large quantities of hazardous materials, including asbestos, polychlorinated biphenyls (PCBs), heavy metals, and fuel oil residues. The beaching method of ship recycling, under which ships are simply driven up onto the beach at high tide and then dismantled in the intertidal zone, means that these hazardous materials are regularly discharged directly into the marine environment as the ships are cut open. Workers are exposed to toxic substances, to the physical hazards of cutting and dismantling large steel structures without adequate protection, and to the risks of fire and explosion from residual fuel and cargo. Fatalities and serious injuries are endemic in the industry.

Investigations by the International Federation for Human Rights (FIDH), the Shipbreaking Platform (an international NGO coalition), Human Rights Watch, and numerous academic researchers have documented in detail the patterns of human rights violations and environmental damage in the Bangladeshi ship recycling industry. These investigations have found child labour, failure to pay the minimum wage, absence of safety equipment, lack of access to medical care, illegal discharge of hazardous wastes, contamination of the intertidal zone and coastal waters with toxic materials, and destruction of mangrove habitats. They have also found that the regulatory enforcement of the nominally applicable legal standards is minimal, and that the

political influence of the ship recycling industry in Bangladesh has historically been sufficient to prevent effective regulatory action.

5.2 The International Legal Framework: The Basel Convention and the Hong Kong Convention

The disposal of old ships is governed by two major international legal instruments that have both been the subject of significant legal controversy in the ship recycling context. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, adopted in 1989, establishes a regime for the control of international shipments of hazardous waste, requiring the prior informed consent of the receiving state before hazardous wastes can be exported to it. The question of whether end-of-life ships sent from developed to developing countries for recycling constitute exports of hazardous waste within the meaning of the Basel Convention has been one of the most contentious questions in international environmental law for more than two decades.

The Basel Convention Parties have adopted the Basel Ban Amendment, which prohibits the export of hazardous wastes from OECD countries to non-OECD countries. The Basel Ban Amendment was initially slow to receive the necessary number of ratifications to enter into force, but it received the sixty-eighth ratification from Croatia in 2019, which brought the Amendment to the threshold for entry into force. The legal status of the Amendment remained disputed, however, with some parties contending that a three-fourths majority of the original parties to the Basel Convention, rather than three-fourths of all current parties, was required for entry into force.

If the Basel Convention and its Ban Amendment were applied consistently to end-of-life ships, it would prohibit the export of ships containing hazardous materials from developed countries (which are OECD members) to Bangladesh (a non-OECD country) for recycling. This would effectively shut down much of the Bangladeshi ship recycling industry, since the great majority of the ships that come to Sitakunda for recycling are owned by companies in developed countries. The ship recycling industry in Bangladesh and its government have accordingly contested the application of the Basel Convention to ships, arguing that ships are not waste until they have been formally designated as waste, and that the decision to designate a ship as waste is a matter for the owner and the flag state, not the Basel Convention bodies.

This controversy provided much of the impetus for the development of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, adopted by a diplomatic conference convened by the IMO in Hong Kong in May 2009. The Hong Kong Convention establishes a framework for the regulation of ship recycling that is managed through the flag state and port state control system familiar from other IMO conventions, rather than through the Basel Convention's waste trade control system. Under the Hong Kong Convention, ships are required to carry an Inventory of Hazardous Materials (IHM) listing the hazardous materials on board, and ship recycling facilities are required to be certified as meeting the Convention's requirements for safe and environmentally sound recycling. Flag states are responsible for ensuring that ships flying their flag carry a valid IHM, and "competent

authorities" in ship recycling states are responsible for authorizing recycling facilities and monitoring their compliance.

The Hong Kong Convention has had a long and troubled journey to entry into force. It required ratification by not fewer than fifteen states representing forty percent of world merchant shipping tonnage and a combined maximum annual ship recycling volume of not less than three percent of the gross tonnage of the combined merchant shipping of all ratifying states. The entry into force conditions were specifically designed to require ratification by both major flag states and major ship recycling states, ensuring that the Convention cannot enter into force without the participation of the major ship recycling nations. Bangladesh ratified the Convention in 2011, and as of 2023, the Convention finally gathered the necessary ratifications and tonnage to enter into force on 26 June 2025. The entry into force of the Hong Kong Convention in 2025 represents a major development in the international legal framework for ship recycling and creates important new obligations for Bangladesh.

5.3 Bangladesh's Legal Framework for Ship Recycling: The Rules of 2011 and Their Inadequacy

Bangladesh has developed a domestic legal framework for ship recycling that includes the Bangladesh Ship Breaking and Recycling Rules of 2011, adopted pursuant to the Environment Conservation Act, and the National Action Plan on Ship Breaking, which was developed with the support of international development partners. The 2011 Rules establish requirements for the environmental management of ship recycling facilities, including the management of hazardous materials, the treatment of liquid wastes, and the provision of personal protective equipment for workers. They also establish requirements for occupational health and safety at ship recycling facilities.

The 2011 Rules represent a significant improvement over the complete absence of specific regulation that preceded them, and their adoption reflected a genuine effort by the Bangladesh government to address the documented problems of the ship recycling industry. However, their adequacy is qualified by several significant weaknesses. First, the regulatory standards established in the Rules fall short of the requirements of the Hong Kong Convention in several respects, including the requirements for ship inventories of hazardous materials, the certification of recycling facilities, and the reporting requirements for recycling activities. Second, the enforcement of the Rules has been inconsistent and often inadequate, with numerous reports of violations going unsanctioned and of inspectors failing to enforce the Rules against powerful recycling companies. Third, the Rules do not comprehensively address the occupational safety and health standards that apply at ship recycling facilities, leaving gaps that are filled (partially and inadequately) by general occupational health and safety legislation.

The entry into force of the Hong Kong Convention on 26 June 2025 creates a new dimension of obligation for Bangladesh. As a ratifying state that is also a major ship recycling state, Bangladesh is now required to ensure that its ship recycling industry complies with the Convention's requirements, including the authorization and monitoring of ship recycling facilities meeting the Convention's standards. The Convention's requirements for authorized ship recycling facilities go significantly beyond the current standards established in the 2011 Rules,

and the comprehensive upgrading of the Sitakunda industry to meet these standards represents a major technical, financial, and regulatory challenge.

From the perspective of this commentary, the fundamental reform needed in Bangladesh's ship recycling governance is the adoption of a comprehensive Ship Recycling Act that supersedes the 2011 Rules, fully implements the Hong Kong Convention's requirements, establishes a dedicated regulatory authority for ship recycling with adequate technical and enforcement capacity, provides for the rigorous licensing and certification of ship recycling facilities, requires the preparation and implementation of Ship Recycling Plans for each vessel, and establishes adequate compensation and medical care systems for workers injured in the course of ship recycling operations. This Act should be developed in consultation with the ship recycling industry, workers' representatives, environmental civil society organisations, and international partners, and it should be supported by a transition programme that provides financial and technical assistance to facilities making the necessary investments to meet the Convention's standards.

5.4 Workers' Rights in the Ship Recycling Industry: A Human Rights and Labour Law Analysis

The rights of workers in the Bangladeshi ship recycling industry deserve a sustained legal and philosophical analysis that goes beyond the environmental and technical dimensions that dominate the international discourse on ship recycling. The workers who perform the physical labour of dismantling ships at Sitakunda are among the most vulnerable workers in Bangladesh, many of them being internal migrants from the poorest districts who have come to Chittagong in search of economic opportunity and who lack the literacy, the legal knowledge, and the organisational capacity to assert their rights.

From a labour law perspective, the ship recycling industry in Bangladesh is characterised by fragmented employment relationships that complicate the application of labour standards. Many workers are employed not directly by the recycling companies but through a network of intermediaries and contractors, and this contractual fragmentation is sometimes used to avoid employer obligations under the Bangladesh Labour Act of 2006 and its amendments. The classification of certain workers as "casual" or "temporary" workers, rather than regular employees, may deprive them of the full benefits of the Labour Act, including rights to paid leave, termination benefits, and access to dispute resolution mechanisms.

The Bangladesh Labour Act of 2006, as amended in 2013 and subsequently, is the principal domestic legislation governing the rights of workers in the ship recycling industry. It applies in principle to all workers in Bangladesh, including those in the ship recycling industry, and it establishes minimum standards for wages, working hours, safety, health, and dispute resolution. However, the Act's application to the ship recycling industry has been systematically inadequate, partly because of the contractual fragmentation described above, partly because of weak enforcement by the Department of Labour, and partly because of the political influence of the ship recycling industry on the regulatory process.

The ILO's Occupational Safety and Health (OSH) standards, including the OSH Convention (No. 155) of 1981 and the Promotional Framework for Occupational Safety and Health Convention (No. 187) of 2006, which Bangladesh has not ratified, provide international standards for workplace safety that are directly relevant to the ship recycling industry. Ratification of these conventions, combined with their domestic implementation through amendments to the Bangladesh Labour Act and the development of specific OSH regulations for the ship recycling sector, would provide a stronger legal foundation for the protection of ship recycling workers' rights.

The compensation of workers injured in ship recycling operations, and the families of workers killed in such operations, is a chronic problem in Bangladesh. The Employees' Compensation Act of 2023, which replaced the Workmen's Compensation Act of 1923, improved the compensation regime, but concerns remain about the adequacy of compensation levels, the accessibility of compensation procedures for injured workers, and the enforcement of compensation awards against employers who dispute or delay payment. A dedicated compensation mechanism for the ship recycling industry, with a central fund financed by contributions from recycling companies, would ensure that injured workers and the families of deceased workers receive prompt and adequate compensation without being required to navigate complex and potentially costly legal proceedings.

CHAPTER 6: ADMIRALTY LAW, MARITIME LIENS, AND THE JUDICIAL FRAMEWORK IN BANGLADESH

6.1 The Historical Development of Admiralty Jurisdiction

Admiralty jurisdiction, the authority of specialised courts to hear and determine maritime disputes, is one of the oldest and most distinctive branches of legal jurisdiction in the common law tradition. Its origins lie in the Court of Admiralty established in England in the fourteenth century, which exercised jurisdiction over maritime disputes arising on the high seas and in other places beyond the jurisdiction of the common law courts, and over disputes involving the law of nations as it applied to maritime commerce and naval affairs. The Court of Admiralty applied the law merchant and the maritime customs of the sea, which were drawn from the civilian tradition of Roman law rather than the common law, and its distinctive procedure, which combined elements of civilian and canonical procedure, made it a unique institution in the English legal system.

The jurisdiction of the Court of Admiralty was the subject of recurring conflict with the common law courts throughout the seventeenth and eighteenth centuries, as the common law courts expanded their jurisdiction through the device of the writ of prohibition to prevent the Admiralty Court from hearing cases that the common law courts claimed fell within their jurisdiction. This conflict was ultimately resolved in favour of the Admiralty Court by the Admiralty Court Acts of 1840 and 1861, which expanded and clarified the Court's jurisdiction. The Supreme Court of Judicature Act of 1873 merged the Admiralty Court into the newly constituted High Court of

Judicature, where it became the Admiralty Division (later the Queen's Bench Division, Admiralty Court), a position it retains to this day.

The distinctive feature of admiralty jurisdiction that sets it apart from ordinary civil jurisdiction is the action in rem, the ability of a claimant to proceed against a ship itself rather than merely against its owner. The action in rem enables the claimant to arrest the ship, detaining it from sailing until security for the claim has been provided or until the claim has been adjudicated. This procedural device is of enormous practical importance in maritime commerce, because it gives claimants a security interest in the ship that can be enforced regardless of the insolvency or absence of the ship owner. The action in rem is closely related to the concept of the maritime lien, a claim that attaches to the ship as property and follows it into the hands of subsequent owners.

The theoretical justification for the action in rem and the maritime lien has been the subject of considerable jurisprudential debate. The "procedural theory" holds that the action in rem is simply a procedural device for asserting a claim in personam against the ship owner, with the arrest of the ship serving merely to compel the ship owner's appearance and to secure the claim pending judgment. The "property theory" holds that the maritime lien is a substantive property right in the ship itself, and that the action in rem enforces that property right rather than merely a personal claim against the owner. Modern jurisprudence has generally moved toward a synthesis that recognises both the procedural and the substantive dimensions of the action in rem, but the theoretical debate has practical implications for questions such as whether the arrest of a ship bars the pursuit of the claim in other jurisdictions and whether a claimant can arrest a sister ship owned by the same beneficial owner as the wrongdoing ship.

6.2 Admiralty Jurisdiction in Bangladesh: The Colonial Inheritance and Its Inadequacy

Admiralty jurisdiction in Bangladesh is governed primarily by the Admiralty Court Act of 2000, which replaced the earlier colonial-era Admiralty jurisdiction provisions and established the High Court Division of the Supreme Court of Bangladesh as the court with admiralty jurisdiction. The Act grants the High Court Division jurisdiction in rem and in personam over a wide range of maritime claims, including claims for damage done by a ship, claims for loss of life or personal injury caused by a ship, claims arising out of agreements relating to the use or hire of a ship, claims relating to the carriage of goods in a ship, claims relating to salvage, claims for marine insurance, and a number of other categories of maritime claim specified in the Act.

The Admiralty Court Act of 2000 was a significant improvement over the colonial-era provisions that it replaced, but it has limitations that impede the effective functioning of admiralty jurisdiction in Bangladesh. Several specific deficiencies can be identified.

First, the Act's provisions on the arrest of ships are not fully consistent with the International Convention Relating to the Arrest of Seagoing Ships of 1952 or with the more recent Arrest Convention of 1999, neither of which Bangladesh has ratified. The failure to ratify and implement these conventions means that Bangladesh's admiralty jurisdiction is governed by domestic law that may differ from the internationally recognised standards in ways that create

uncertainty for foreign claimants and that may deter the use of Bangladesh's courts for the resolution of maritime disputes.

Second, the Act does not specifically address the recognition and enforcement of foreign admiralty judgments, which is a significant gap given the international character of maritime commerce. A foreign claimant who has obtained a judgment from a recognised foreign court in respect of a maritime claim involving a ship that subsequently calls at a Bangladeshi port should be able to enforce that judgment in Bangladesh by arresting the ship, but the domestic legal framework for recognising and enforcing foreign admiralty judgments is not fully developed.

Third, the Act's provisions on the priorities of maritime claims, which determine whose claim takes precedence when a ship's value is insufficient to satisfy all claims against it, do not fully reflect the international practice as embodied in the various international conventions on maritime liens and mortgages. The priorities of maritime claims in Bangladesh law are determined by common law principles and the domestic provisions of the Act, which may give different results from the internationally recognised hierarchy of maritime claim priorities, creating uncertainty for claimants and for financiers who take security interests in Bangladeshi ships.

Fourth, the procedural provisions of the Act do not fully address the modern demands of international maritime litigation, including the use of electronic evidence, the management of complex multi-party disputes, the use of expert witnesses in technical maritime cases, and the interaction between admiralty proceedings in Bangladesh and parallel proceedings in foreign courts. The procedural rules of the High Court Division apply to admiralty proceedings, but they are not specifically tailored to the distinctive features of maritime litigation.

6.3 Maritime Liens, Mortgages, and Ship Finance in Bangladesh

The legal framework for ship finance in Bangladesh is an important dimension of the maritime transport legal system, since the development of Bangladesh's merchant fleet depends on the ability of ship owners to access financing for the construction or acquisition of ships, and the availability of financing depends in turn on the legal certainty provided by the framework for maritime mortgages and the enforcement of maritime liens.

A ship mortgage, like a land mortgage, gives the lender a security interest in the ship that can be enforced if the borrower defaults on the loan. The registration of ship mortgages in the ship register maintained by the DOS is the mechanism by which the mortgage is made effective against third parties. The priority of the mortgage in relation to other claims against the ship, particularly maritime liens, is a critical question for lenders, since the value of their security depends on their ability to enforce the mortgage in priority to other claimants.

The international framework for ship mortgages is provided by the International Convention on Maritime Liens and Mortgages of 1993, which Bangladesh has not ratified. The 1993 Convention establishes a hierarchy of maritime claims, specifying which categories of claims have priority as maritime liens, which take priority as mortgages, and how these priorities relate to each other. The Convention's ratification is relatively limited, but it provides an internationally

recognised framework that is superior to the patchwork of domestic law provisions that currently governs maritime claim priorities in many jurisdictions.

Bangladesh's domestic law on maritime liens is derived from the English maritime law of the nineteenth century, as applied and developed by the courts of British India and subsequently by the courts of Pakistan and Bangladesh. This body of law recognises a number of categories of maritime lien, including liens for wages and salvage (which have the highest priority), liens for loss of life and personal injury, liens for general average, and liens for damage done by the ship. However, the boundaries of these categories and the specific rules of priority are not always clear in Bangladesh's domestic law, creating uncertainty for claimants and for the courts.

The development of a modern, internationally consistent framework for ship finance in Bangladesh, including the ratification of the 1993 Liens and Mortgages Convention, the establishment of an efficient and transparent ship register that provides reliable information about encumbrances on ships, and the development of the legal framework for the efficient resolution of disputes about maritime claim priorities, is an important element of the blue economy reform agenda. A well-functioning ship finance framework would attract investment in the Bangladeshi shipping industry, support the development of a larger and more modern national fleet, and strengthen Bangladesh's position as a maritime commercial centre in the Bay of Bengal region.

6.4 Collision, Salvage, and General Average: The Technical Maritime Law Framework

The law of maritime collision, salvage, and general average are the three branches of maritime law that most directly reflect the physical hazards of navigation and the established practices of the maritime industry in responding to those hazards. These are also areas where the international framework of conventions and mercantile custom is highly developed and where Bangladesh's domestic legal framework requires updating to reflect the current state of the law.

The law of maritime collision determines the liability of ships involved in collisions at sea, including the allocation of liability between ships and their owners, the calculation of damages, and the limitation of liability. The International Regulations for Preventing Collisions at Sea (COLREGS), adopted by the IMO in 1972, establish the navigational rules that ships must follow to avoid collisions, and violation of COLREGS is typically the basis for establishing fault in collision cases. Bangladesh has incorporated COLREGS into domestic law through the Merchant Shipping Ordinance, and they apply to all ships in Bangladeshi waters. The Convention on the International Regulations for Preventing Collisions at Sea of 1972 and the International Convention for the Unification of Certain Rules of Law with Respect to Collision between Vessels of 1910 (the "Collision Liability Convention") provide the international framework for collision liability, and Bangladesh is a party to the COLREGS Convention but not to the 1910 Collision Liability Convention.

The law of salvage, which governs the rights and duties of persons who voluntarily and successfully save maritime property from peril, has been significantly reformed by the International Convention on Salvage of 1989, which Bangladesh has not ratified. The 1989 Convention introduced the concept of "special compensation" for salvors who prevent or

minimise environmental damage, even if the salvage operation is not otherwise successful in saving property. This was a significant reform of the traditional rule that salvage reward was payable only for successful salving of property (the "no cure, no pay" principle), because it removed the disincentive for salvors to engage with ships that had lost most of their value through accident but that still posed a significant risk of environmental damage. The SCOPIC Clause (Special Compensation P&I Clause), which is widely incorporated into salvage contracts under the Lloyd's Open Form, has further developed the incentive framework for environmentally motivated salvage. Bangladesh's ratification of the 1989 Salvage Convention would bring its domestic law on salvage into line with modern international standards and would provide a clearer and more equitable framework for the resolution of salvage disputes.

General average, the principle under which extraordinary sacrifices and expenditures made for the common safety in a maritime adventure are shared among all the interests at risk, is one of the most ancient principles of maritime law, as noted in Chapter 1 of this Part. The York-Antwerp Rules, most recently revised in 2016, provide the standard contractual framework for the adjustment of general average claims in commercial shipping. The adjustment of general average claims is a complex technical process that is carried out by specialist average adjusters, and the expertise and institutional capacity for this work in Bangladesh is limited. The development of a cadre of qualified average adjusters in Bangladesh, and the training of Bangladeshi lawyers in the technical aspects of general average law, would strengthen the country's capacity to resolve maritime commercial disputes domestically rather than relying on the adjustment of claims by foreign adjusters under foreign law.

6.5 The Limitation of Liability for Maritime Claims: The LLMC Convention and Bangladesh

The principle of limitation of liability in maritime law, under which ship owners and operators are entitled to limit their liability for maritime claims arising from a single incident to a specified amount calculated by reference to the tonnage of the ship, is one of the most distinctive and theoretically controversial features of maritime law. Its justification has historically been grounded in the economic argument that the risk of unlimited liability would deter investment in shipping and thereby harm commerce, and in the historical practice of ship owners limiting their liability through the device of abandonment of the ship and freight to creditors (the "executive" theory of limitation). Modern maritime law scholars have increasingly questioned whether the traditional justifications for limitation of liability remain compelling in an era of mandatory insurance and sophisticated risk management, but the institution persists and has been reinforced by the Convention on Limitation of Liability for Maritime Claims of 1976 and its Protocol of 1996 (the LLMC Convention).

The LLMC Convention establishes the right of ship owners, salvors, and certain other parties to limit their liability for claims arising from personal injury, property damage, delay, and certain other heads of loss to amounts specified in the Convention and calculated by reference to the gross tonnage of the ship. The Convention also provides for the establishment of a limitation fund, which is constituted by depositing the maximum amount of the claim with the court, and which provides a centralised mechanism for the distribution of the available limitation fund among all claimants.

Bangladesh is not a party to the LLMC Convention, and its domestic law on limitation of liability is the colonial-era Merchant Shipping Ordinance provision, which establishes limitation amounts that are significantly lower than those under the LLMC Convention and that no longer reflect the economic realities of modern maritime commerce. The failure to ratify the LLMC Convention means that Bangladesh is out of step with the international maritime community on this important issue and that foreign claimants seeking to recover against Bangladeshi ship owners may face limitation amounts that are inadequate compensation for their losses. Conversely, Bangladeshi ship owners seeking to limit their liability in foreign courts may encounter difficulties because Bangladesh is not party to the Convention. Ratification of the LLMC Convention, with the higher limitation amounts of the 1996 Protocol, should be an early priority in Bangladesh's maritime law reform programme.

CHAPTER 7: BIMSTEC, REGIONAL MARITIME TRANSPORT COOPERATION, AND BANGLADESH'S LEGAL OBLIGATIONS

7.1 The BIMSTEC Agreement on Maritime Transport Cooperation of 2025

The BIMSTEC Agreement on Maritime Transport Cooperation (AMTC), formally adopted at the sixth BIMSTEC Summit in 2025 and first ratified by India, represents the most significant multilateral legal instrument for maritime transport governance in the Bay of Bengal since the adoption of the BIMSTEC Charter itself. The Agreement aims to create a comprehensive framework for the facilitation of maritime trade, the enhancement of port connectivity, the standardisation of maritime safety and security procedures, and the development of a regional blue economy through coordinated maritime transport governance.

The specific provisions of the AMTC address a range of subjects, including the recognition of ships' documents issued by BIMSTEC member states, the facilitation of clearance procedures for ships calling at ports in member states, cooperation in maritime search and rescue, coordination of maritime security measures, mutual recognition of seafarer certificates issued by member state maritime administrations, cooperation in port state control inspection, joint approaches to the prevention of marine pollution, and technical assistance for the development of maritime infrastructure and capacity in less developed BIMSTEC member states, including Bhutan and Nepal (which are landlocked), Bangladesh, and Myanmar.

The AMTC has several jurisprudential dimensions that deserve careful analysis. First, it represents an exercise of treaty-making authority within a regional framework that supplements and interacts with the global framework of the IMO conventions. The relationship between the AMTC and the IMO conventions is one of complementarity rather than conflict: the Agreement aims to implement IMO standards on a regional basis and to promote the harmonisation of national implementing legislation, rather than to establish a separate regional standard that diverges from the IMO framework. This complementarity is consistent with the approach of other regional maritime cooperation agreements, such as the ASEAN Maritime Transport Agreement.

Second, the AMTC's provisions on the mutual recognition of seafarer certificates have significant implications for the governance of seafarer certification in BIMSTEC member states. If the certificates issued by one member state's maritime administration are automatically recognised by other member states, this creates a strong incentive for harmonisation of the certification standards applied by different member state administrations. For Bangladesh, which is a major seafarer supplying state, the mutual recognition of its seafarer certificates by India, Sri Lanka, and other BIMSTEC members would significantly expand the market for Bangladeshi seafarers in the region. The domestic implementation of the mutual recognition provisions of the AMTC requires amendments to the Merchant Shipping Ordinance and to the DOS's certification procedures to ensure that they are consistent with the Agreement's requirements.

Third, the AMTC's provisions on maritime search and rescue (SAR) coordination create a framework for joint operations by BIMSTEC member states' coast guards and naval forces in SAR incidents in the Bay of Bengal. The coordination of SAR operations in the Bay of Bengal is a practical necessity, given the complexity of jurisdictional boundaries in the region and the frequency of maritime distress incidents involving vessels from multiple countries. The legal framework for joint SAR operations, including the authority to conduct operations in the waters of other member states, the sharing of costs, and the legal status of persons rescued by foreign vessels, requires clarification in the domestic legal systems of the member states.

7.2 The Port of Chittagong: Legal Framework, Governance, and Reform Needs

The Port of Chittagong is the principal port of Bangladesh and one of the most important ports in South Asia. It handles the great majority of Bangladesh's overseas trade, including the exports that have been central to the country's economic development, most notably the ready-made garment sector whose products make up more than eighty percent of Bangladesh's export earnings. The effective governance of the Port of Chittagong is accordingly a matter of the most direct national economic interest.

The legal framework for the governance of Chittagong Port is provided by the Chittagong Port Authority Ordinance of 1976, as amended, which established the Chittagong Port Authority (CPA) as the statutory body responsible for the administration, management, development, and maintenance of the port. The CPA has a wide range of functions, including the management of berths and cargo handling facilities, the maintenance of navigational channels and aids to navigation, the regulation of shipping within the port waters, the collection of port dues and charges, and the development of port infrastructure. It operates under the supervision of the Ministry of Shipping and is subject to the oversight of the National Board of Revenue, the Bangladesh Coast Guard, and various other public authorities.

The Chittagong Port Authority Ordinance is a colonial-era instrument, originally enacted as an Ordinance by the military government of General Ziaur Rahman, and it has been amended on numerous occasions but not comprehensively reformed. Its governance structure, which vests authority in a large board of directors representing multiple public agencies, is generally regarded as cumbersome and insufficiently responsive to the commercial and operational demands of a major international port. The port's management has been the subject of persistent

criticism for inefficiency, corruption, congestion, and poor labour relations, all of which impose costs on Bangladesh's international trade competitiveness.

A comprehensive reform of the legal framework for port governance in Bangladesh, including the enactment of a new Port Authority Act that modernises the governance structure of the CPA and the Port of Mongla, establishes clear accountability mechanisms, introduces performance-based management, creates space for private sector participation in port development and operations, and aligns the legal framework with modern international port governance standards, is an important element of the blue economy reform agenda.

The development of new port infrastructure, including the Matarbari Deep Sea Port being developed in Cox's Bazar District with Japanese financing and technical assistance, raises new legal questions about the governance framework for deep-sea port operations and the legal status of the associated industrial zone. The Matarbari Deep Sea Port Project, which is one of the most significant infrastructure investments in Bangladesh's history, will require a comprehensive legal framework covering port administration, customs and immigration, environmental regulation, land acquisition, labour rights, and the governance of the adjacent special economic zone. The development of this legal framework in advance of the port's operational commencement is an urgent priority for Bangladesh's maritime law reform programme.

7.3 The Inland Water Transport Legal Framework: Rivers, Ferries, and the Nexus Between Maritime and Inland Navigation Law

Bangladesh's extraordinary network of inland waterways, encompassing approximately 24,000 kilometres of rivers, canals, and tidal channels, is a major transportation system that carries a significant proportion of the country's domestic freight and passenger traffic. The governance of inland water transport is technically separate from the governance of maritime (sea-going) transport, but the two systems are closely interconnected, particularly in the coastal zone where rivers meet the sea and where vessels transition between the inland waterway and maritime environments.

The legal framework for inland water transport in Bangladesh is provided by the Inland Shipping Ordinance of 1976, the Bangladesh Inland Water Transport Authority Ordinance of 1958 (as amended), and a range of subsidiary regulations. The Bangladesh Inland Water Transport Authority (BIWTA) is responsible for the regulation and development of inland water transport, including the registration of inland vessels, the licensing of masters and crew, the inspection of vessels for safety, the maintenance of navigational channels, and the provision of ferry services on routes not served by private operators.

The safety record of inland water transport in Bangladesh is deeply troubling. Ferry disasters resulting in multiple fatalities are a regular occurrence, with major accidents typically attributed to overcrowding, unseaworthy vessels, inadequate safety equipment, poor navigation in bad weather, and corruption in the vessel registration and inspection process. The legal and regulatory framework for inland shipping safety, though nominally comprehensive, is poorly enforced, and the institutional capacity of the relevant regulatory authorities is inadequate.

The intersection between maritime law and inland navigation law in Bangladesh creates specific legal questions that the current framework does not adequately address. The classification of vessels as "inland vessels" or "sea-going vessels," which determines which legal regime applies, is not always clear for vessels operating in the coastal zone. The safety standards applicable to vessels transitioning between the inland waterway and maritime environments should reflect the higher risks of the marine environment, but the current legal framework does not provide for a graduated or zone-specific approach to vessel safety standards. The reform of inland water transport safety law, including a comprehensive revision of the vessel inspection and certification system, the establishment of minimum safety equipment requirements, and the introduction of effective penalties for safety violations, is an urgent priority that goes beyond the strictly maritime law reform agenda of this commentary but that is directly related to it.

CHAPTER 8: BANGLADESH'S MERCHANT SHIPPING ORDINANCE - A CRITICAL LEGISLATIVE ANALYSIS AND REFORM AGENDA

8.1 The Merchant Shipping Ordinance of 1983: Historical Context and Current Status

The Merchant Shipping Ordinance of 1983 is the principal legislation governing merchant shipping in Bangladesh. It was enacted by the military government of General Hussain Muhammad Ershad as a consolidation and reform of the merchant shipping legislation inherited from Pakistan, drawing on the British Merchant Shipping Acts of 1894 and 1970, as well as the Pakistan Merchant Shipping Ordinance of 1960. The Ordinance covers a wide range of subjects, including the registration of ships, the certification and conduct of masters and seafarers, the safety of ships, the prevention of pollution, the rights and duties of seamen, the investigation of marine casualties, and admiralty jurisdiction.

The Merchant Shipping Ordinance of 1983 has been amended on a number of occasions, but it has never been comprehensively reformed or replaced. As a result, it is an instrument of its time, reflecting the state of international maritime law in the early 1980s rather than the current state of that law as represented by the full range of IMO conventions adopted since then, the MLC 2006, the BIMSTEC AMTC, and the emerging requirements of the IMO's decarbonisation agenda. The gap between the Ordinance's provisions and the requirements of the current international legal framework is, by the assessment of this commentary, fundamental rather than merely marginal, and it calls for a comprehensive legislative reform rather than another round of piecemeal amendment.

The structure of the Ordinance reflects the historical development of British merchant shipping law, organised around the central role of the Master of the ship and around the bilateral relationship between the ship owner and the seafarer as the foundational employment relationship. This structure was appropriate for an era when ships were managed primarily through the authority of the Master and when the diversity of ship types, trading patterns, and employment arrangements was considerably less than it is today. The emergence of ship management companies as the principal managers of many vessels, the proliferation of complex multi-party commercial arrangements including bareboat charters, time charters, and voyage

charters, the involvement of classification societies and recognised organisations in the technical oversight of ships, and the development of the MLC 2006's comprehensive framework for seafarers' employment all require a more sophisticated legislative architecture than the 1983 Ordinance provides.

8.2 Flag State Registration: The Bangladesh Ship Registry and Its Reform

The registration of ships under the Bangladeshi flag is the responsibility of the Registrar of Ships in the Department of Shipping, and it is governed by Part II of the Merchant Shipping Ordinance. The Bangladesh ship registry has traditionally been a closed registry, meaning that only ships owned by Bangladeshi nationals or companies are eligible for registration under the Bangladeshi flag. This approach contrasts with the open registry model of Panama, Liberia, and other flag of convenience states, and with the "second registry" or "international registry" model adopted by some European states to attract foreign-owned ships while maintaining domestic shipping industry interests.

The closed registry model reflects a deliberate policy choice to restrict the benefits of the Bangladeshi flag to the domestic shipping industry, but it also limits the revenue that Bangladesh can earn from ship registration fees and the diplomatic influence that Bangladesh can exercise through its position as the flag state of a larger fleet. Several Bangladeshi scholars and industry stakeholders have argued for the establishment of an international ship registry that would allow ships owned by foreign nationals to fly the Bangladeshi flag on commercial terms, generating registration revenue for the government and increasing Bangladesh's profile in the international maritime community.

This proposal raises significant legal and policy questions. An international registry that allowed ships with no genuine connection to Bangladesh to fly the Bangladeshi flag would, at least arguably, be inconsistent with the genuine link requirement of UNCLOS Article 91, as discussed in Chapter 1 of this Part. It would also require Bangladesh to take on flag state responsibilities for a larger number of ships, requiring a corresponding expansion of the DOS's capacity for flag state inspection, survey, certification, and enforcement. And it would expose Bangladesh to reputational risk if ships flying the Bangladeshi flag under the international registry were found to be substandard, with adverse consequences for the port state control performance statistics of the Bangladeshi flag, which in turn affect the ability of ships flying that flag to call at ports in the major maritime economies without additional inspections.

The alternative, which this commentary recommends, is not the establishment of an open international registry but rather the comprehensive improvement of the existing closed registry to ensure that all ships flying the Bangladeshi flag are operated in full compliance with international standards. This means strengthening the DOS's capacity for flag state inspection and enforcement, requiring all Bangladeshi ships to be classed with recognised classification societies, introducing a mandatory insurance requirement for Bangladeshi ships (covering at least civil liability for oil pollution damage, wreck removal, and seafarers' wages under the MLC 2006), and developing a transparent and efficient system for the registration and transfer of ownership of Bangladeshi ships.

8.3 The Comprehensive Maritime Shipping Act: A Blueprint for Reform

The central legislative reform recommendation of this chapter is the replacement of the Merchant Shipping Ordinance of 1983 with a comprehensive new Merchant Shipping Act that reflects the current state of international maritime law, fully implements Bangladesh's obligations under the IMO conventions and the MLC 2006, provides a coherent and modern legal framework for the governance of all aspects of maritime shipping, and is structured to accommodate future developments in international maritime law without requiring comprehensive legislative replacement every generation.

The new Act should be organised around the following principal subjects, each of which corresponds to a Title or Part of the legislation:

Part One should address General Provisions, including definitions, the scope of application of the Act, the relationship between the Act and international conventions, and the general powers and duties of the maritime administration.

Part Two should address Ship Registration, including the conditions for registration of ships under the Bangladeshi flag, the registration procedure, the maintenance of the ship register, the transfer of registration, and the deletion of registration. This Part should incorporate the requirements of UNCLOS Article 91 on the genuine link and should establish the basis for recognising equivalent registrations and certificates issued by recognised organisations.

Part Three should address Safety of Ships, implementing the SOLAS Convention requirements for ship construction, equipment, and operation in a comprehensive and internally consistent manner. This Part should specifically address the ISM Code and its requirements for safety management systems, the ISPS Code and its requirements for ship security, and the specific requirements applicable to different categories of ships including passenger ships, tankers, bulk carriers, and fishing vessels.

Part Four should address Seafarers, implementing the MLC 2006 requirements for the qualifications, training, certification, employment conditions, accommodation, welfare, and social security protection of seafarers. This Part should establish a framework for the recognition of seafarers' certificates, the enforcement of seafarers' employment agreements, the inspection of ships for MLC 2006 compliance, and the provision of assistance to seafarers in distress.

Part Five should address Pollution Prevention, implementing the MARPOL Convention requirements for the prevention of pollution from ships, including provisions on oil record books, garbage management plans, sewage treatment, and air pollution control. This Part should also address the emerging requirements of the IMO's GHG reduction strategy and establish the legal basis for the enforcement of energy efficiency requirements for Bangladeshi ships.

Part Six should address Ship Recycling, implementing the Hong Kong Convention requirements for the safe and environmentally sound recycling of ships, including the requirements for inventories of hazardous materials, authorised ship recycling facilities, and ship recycling plans.

This Part should be developed in conjunction with the proposed standalone Ship Recycling Act discussed in Chapter 5 of this Part.

Part Seven should address Maritime Safety Investigations, establishing a transparent and independent framework for the investigation of marine casualties and maritime safety incidents, consistent with the IMO's Casualty Investigation Code.

Part Eight should address Port State Control, providing the statutory authority for PSC inspections, detentions, and enforcement actions, and specifying the procedures for the exercise of these powers in a manner consistent with UNCLOS, the relevant IMO conventions, and the Tokyo MOU.

Part Nine should address Admiralty Jurisdiction, replacing the Admiralty Court Act of 2000 with a comprehensive provision on the jurisdiction of the courts in maritime matters, including the scope of admiralty jurisdiction, the procedures for arrest and release of ships, the priorities of maritime claims, and the recognition and enforcement of foreign admiralty judgments.

Part Ten should address Miscellaneous Provisions, including the delegation of functions to recognised organisations, the powers of the Minister of Shipping to make regulations, the transitional arrangements for existing ships and certificates, and the consequential amendments to other legislation.

The drafting of this legislation should be a major collaborative endeavour, drawing on the expertise of maritime lawyers, maritime administrators, shipping industry representatives, seafarers' union representatives, environmental NGOs, and international technical experts. It should be informed by a comparative analysis of the merchant shipping legislation of other Commonwealth developing states, including India, Sri Lanka, and Malaysia, as well as the merchant shipping legislation of leading maritime nations, including Norway, the United Kingdom, and Singapore.

CHAPTER 9: MARINE INSURANCE LAW AND THE GOVERNANCE OF MARITIME RISK

9.1 The Legal Framework for Marine Insurance: International and Domestic Dimensions

Marine insurance is the mechanism by which the financial risks of maritime commerce are allocated and distributed across the insurance market. Without marine insurance, the capital investment required to build and operate ships and the potential liability for cargo losses, personal injury, and environmental damage would be unacceptably concentrated in the hands of individual ship owners and cargo interests, and the scale of maritime commerce that the global economy requires would be impossible to sustain. Marine insurance is accordingly not merely a commercial service but an essential infrastructure of maritime trade, and its legal governance is a matter of direct relevance to the law of the sea.

The law of marine insurance in Bangladesh is governed primarily by the Insurance Act of 2010, which replaced the colonial-era Insurance Act of 1938, and by the common law principles of marine insurance derived from English law, which are applied by the Bangladeshi courts in the absence of specific statutory provision. The Insurance Development and Regulatory Authority (IDRA), established by the Insurance Development and Regulatory Authority Act of 2010, is responsible for the supervision and regulation of the insurance industry in Bangladesh, including the marine insurance sector.

The marine insurance market in Bangladesh is dominated by a small number of state-owned insurance companies, most notably the Sadharan Bima Corporation, which was the sole provider of general insurance services in Bangladesh under the nationalised insurance regime that prevailed until the 1980s and which retains a significant market share even after the entry of private insurance companies. The quality and capacity of the Bangladeshi marine insurance market has historically been regarded as insufficient for the needs of major maritime commercial transactions, and the great majority of marine insurance for international voyages involving Bangladeshi cargo is placed in foreign markets, particularly London and Singapore.

The development of a more sophisticated and competitive domestic marine insurance market is an important element of Bangladesh's blue economy and maritime development agenda. The underwriting of marine risks requires specialised expertise in maritime law, marine engineering, and loss adjustment that is not widely available in Bangladesh. The development of this expertise, through investment in maritime education, the development of maritime law and insurance programmes in Bangladeshi law schools and business schools, and the creation of regulatory incentives for the development of domestic marine insurance capacity, should be an explicit element of the maritime law reform agenda.

The third-party liability insurance requirements for ships operating in Bangladeshi waters deserve specific attention. Ships carrying oil cargoes or operating in Bangladeshi ports are required under various international conventions to carry certificates of financial security (such as CLC certificates for oil tankers and Blue Cards for bunker oil insurance). The verification that ships calling at Bangladeshi ports carry the required insurance certificates is an element of the PSC inspection regime, but the depth of the verification process and the legal consequences of detecting ships without adequate insurance are not fully elaborated in the domestic legal framework. A comprehensive maritime liability insurance requirement, covering at least oil pollution liability, wreck removal, and seafarers' compensation, should be a condition of entry into Bangladeshi ports for foreign ships and a condition of registration for Bangladeshi ships.

9.2 The P&I Clubs and Their Relationship with Bangladesh

The Protection and Indemnity (P&I) Clubs, which are mutual insurance associations owned by their ship owner members and which provide insurance for the major third-party liabilities of ship owners, including personal injury to crew and passengers, damage to cargo, oil pollution, and wreck removal, are the most important providers of maritime liability insurance in the world. The thirteen P&I Clubs that are members of the International Group of P&I Clubs collectively cover more than ninety percent of the world's ocean-going tonnage, and their pooling

arrangement means that they can provide coverage for very large individual losses, such as major oil spills, that would be beyond the capacity of any individual commercial insurer.

The relationship between P&I Clubs and Bangladesh is relevant for several reasons. First, Bangladeshi ship owners whose ships are covered by P&I Club insurance have access to the Club's legal support services, including the services of the Club's correspondents in major ports around the world, who can provide assistance in the event of accidents, cargo claims, crew injuries, and other maritime incidents. The quality of P&I Club representation in Bangladeshi ports is relevant to the practical effectiveness of the maritime legal system: if Club correspondents in Chittagong are well-resourced and knowledgeable, maritime incidents involving Club-covered ships can be managed efficiently and in accordance with applicable law.

Second, P&I Club certificates are required as evidence of financial security under several international conventions, including the 1992 Civil Liability Convention for oil pollution, the Bunkers Convention of 2001, and the Wreck Removal Convention. Bangladesh's ratification of and compliance with these conventions requires the establishment of a system for verifying that ships calling at Bangladeshi ports carry the required P&I Club or equivalent certificates.

Third, the P&I Clubs' extensive experience with maritime casualty management, claims adjustment, and loss prevention programmes provides a valuable resource for the development of maritime safety and environmental protection in Bangladesh. The Clubs have developed detailed guidelines and best practice recommendations on many aspects of ship operation, crew management, and cargo handling that are relevant to the improvement of safety in Bangladesh's shipping industry. Engagement with the P&I Clubs, through the Bangladesh Marine Academy and the Bangladesh Shipowners' Association, could be a valuable element of the capacity-building programme that Bangladesh's maritime safety improvement requires.

CHAPTER 10: BANGLADESH'S MARITIME ADMINISTRATIVE ARCHITECTURE - INSTITUTIONAL ANALYSIS AND REFORM PROPOSALS

10.1 The Department of Shipping: Mandate, Capacity, and Limitations

The Department of Shipping (DOS), operating under the Ministry of Shipping, is the primary maritime administrative authority in Bangladesh. Its mandate encompasses the full range of flag state functions (ship registration, survey, certification of seafarers), port state control, maritime safety regulation, the investigation of marine casualties, the regulation of maritime labour conditions, and the implementation of international maritime conventions to which Bangladesh is party. The DOS is also responsible for the administration of the Merchant Marine Officers Training Centre and for the oversight of maritime training institutions.

The institutional capacity of the DOS has grown significantly over the past two decades, reflecting the growth of Bangladesh's maritime sector and the increasing complexity of international maritime law and regulation. The DOS has expanded its staff, improved its facilities, and invested in the development of its technical capacity. However, by comparison

with the maritime administrations of leading maritime nations, and indeed by comparison with the maritime administrations of some other developing coastal states in the region, the DOS remains significantly under-resourced relative to the demands of its mandate.

Specific capacity gaps can be identified in several areas. The number of qualified marine surveyors available to the DOS for flag state ship inspection is insufficient for the volume of inspection work required by the Bangladeshi fleet. The number of qualified port state control officers is insufficient for the volume of foreign ships calling at Bangladeshi ports. The DOS's capacity for marine casualty investigation is limited, and the independence and quality of its casualty investigation reports have been questioned in some cases. The DOS's capacity for the technical review of international maritime conventions and for the development of informed positions on IMO regulatory proposals is constrained by a shortage of staff with the specialised maritime technical and legal expertise required.

The reform of the DOS should address these capacity gaps through investment in staff recruitment, training, and retention, through improved remuneration structures that attract and retain skilled maritime professionals, and through the development of institutional partnerships with leading maritime administrations and international organisations. The DOS should develop a programme of secondments and exchange arrangements with maritime administrations in leading maritime nations, including Norway, Japan, Singapore, and the United Kingdom, that would expose DOS staff to best practices in maritime administration and regulation.

10.2 The Bangladesh Coast Guard: Maritime Law Enforcement and Reform

The Bangladesh Coast Guard, established by the Bangladesh Coast Guard Act of 2010, is responsible for maritime law enforcement in the territorial sea and EEZ, including the enforcement of fisheries regulations, the prevention of illegal immigration, customs enforcement, environmental protection, and search and rescue. It operates under the Ministry of Home Affairs, a placement that creates potential coordination challenges with the Ministry of Shipping and its subordinate DOS.

The Coast Guard's asset base, including patrol vessels, helicopters, and surveillance systems, has expanded significantly since its establishment, but it remains limited relative to the expanse of maritime territory it is responsible for monitoring and the range of enforcement functions it is required to perform. The effective governance of an EEZ of 118,813 square kilometres, with its extensive coastline, numerous offshore fishing grounds, potential hydrocarbon resources, and active maritime trade routes, requires a Coast Guard capability significantly larger than Bangladesh currently maintains.

The legal framework governing the Coast Guard's enforcement powers requires clarification and strengthening in several respects. The authority to stop, board, and inspect foreign fishing vessels suspected of IUU fishing in the EEZ must be specified in domestic law with sufficient precision to guide enforcement officers and to withstand legal challenge. The use of force in maritime law enforcement must be governed by a clear legal framework that is consistent with international human rights standards and with the requirements of UNCLOS and relevant IMO instruments. The procedures for the arrest and detention of foreign vessels and their crews, and for the

prosecution of offences committed in the EEZ, must be clearly specified in domestic law and must be consistent with the prompt release provisions of UNCLOS Article 73(2).

The coordination between the Coast Guard and the Bangladesh Navy, which also has significant maritime surveillance and enforcement capabilities, requires a clear legal framework that defines the respective roles and jurisdictions of the two forces and provides for effective joint operations when required. The development of a Maritime Domain Awareness (MDA) system, integrating the surveillance capabilities of the Coast Guard, the Navy, and the civilian maritime administration, would significantly enhance Bangladesh's capacity for maritime monitoring and enforcement.

10.3 The National Committee for Maritime Safety and Environmental Protection

A specific reform recommendation that emerges from the analysis in this Part is the establishment of a National Committee for Maritime Safety and Environmental Protection (NCMSEP) as the inter-ministerial coordinating body for the governance of Bangladesh's maritime safety and environmental protection regime. The need for such a body is indicated by the current fragmentation of maritime governance responsibilities across multiple ministries and agencies, including the Ministry of Shipping and its DOS, the Ministry of Home Affairs and its Coast Guard, the Ministry of Environment, Forest and Climate Change, the Ministry of Fisheries and Livestock, the Ministry of Ports, Shipping and Waterways (and the subordinate Chittagong and Mongla Port Authorities), and the Bangladesh Economic Zones Authority.

The NCMSEP should be chaired by the Minister of Shipping and should include the heads of all relevant agencies and ministries. It should be supported by a technical secretariat with expertise in maritime law, maritime engineering, marine environmental science, and maritime commerce. Its functions should include the development and review of Bangladesh's positions on IMO and ILO maritime regulatory proposals, the coordination of domestic implementation of international maritime conventions, the oversight of Bangladesh's port state control programme, the review of marine casualty investigation reports and the development of safety improvement recommendations, and the development of a national maritime safety strategy updated on a regular basis.

CHAPTER 11: THE DECARBONISATION OF SHIPPING AND BANGLADESH'S LEGAL AND POLICY RESPONSE

11.1 The IMO Decarbonisation Agenda: CII, EEXI, and Beyond

The decarbonisation of international shipping is among the most significant regulatory challenges facing the shipping industry and its governance institutions in the coming decades. Shipping currently accounts for approximately 2.5% to 3% of global greenhouse gas emissions, and under a business-as-usual scenario, shipping's share of global emissions could increase significantly as the emissions reductions required by the Paris Agreement are achieved in other sectors. The IMO's 2023 Revised GHG Strategy, discussed in Chapter 2 of this Part, has

established the goal of net-zero emissions by or around 2050, but the regulatory measures required to achieve this goal are still being developed.

The regulatory measures already in force under MARPOL Annex VI include the Carbon Intensity Indicator (CII) rating scheme, under which ships are assigned a rating from A to E based on their annual carbon intensity, defined as the CO2 emissions per cargo-carrying capacity per nautical mile. Ships rated D or E for three consecutive years or E for one year are required to develop a corrective action plan. The Energy Efficiency Existing Ship Index (EEXI), also in force from January 2023, establishes a minimum energy efficiency standard for existing ships that must be met either through technical measures (such as engine power limitation or installation of energy-saving devices) or by demonstrating that the ship's existing energy efficiency meets the required standard.

These measures represent an initial step in the decarbonisation of shipping, but they do not in themselves achieve the 2050 net-zero target. The IMO is currently developing more ambitious mid-term measures, including a greenhouse gas fuel intensity standard and a market-based mechanism (such as a carbon levy on shipping fuel). The carbon levy proposal, which would impose a charge on ships' fuel consumption and use the proceeds to fund the maritime energy transition and to provide assistance to developing states affected by the transition, has attracted significant interest and is likely to be a central element of the IMO's post-2030 regulatory framework.

For Bangladesh, the decarbonisation of shipping creates both challenges and opportunities. The challenges include the costs of compliance for the Bangladeshi fleet, the potential increase in shipping costs that could affect the competitiveness of Bangladeshi exports, and the costs of providing port infrastructure (such as alternative fuel bunkering facilities) compatible with zero-emission shipping. The opportunities include the potential for Bangladesh to develop a maritime energy transition industry, including the production of green hydrogen and green ammonia from renewable energy sources, which are likely to be among the principal fuels for zero-emission shipping in the 2030s and beyond.

Bangladesh's legal and policy response to the IMO decarbonisation agenda should include several elements. First, Bangladesh should actively participate in the IMO's regulatory process, advocating for measures that protect the interests of developing flag states and seafarer-supplying states, including phased implementation timelines, capacity building support, and access to the IMO transition fund. Second, Bangladesh should amend the Merchant Shipping Ordinance (or the new Merchant Shipping Act when enacted) to provide the legal basis for the enforcement of CII and EEXI requirements on Bangladeshi-flagged ships and for the port state control inspection of foreign ships for compliance with these requirements. Third, Bangladesh should develop a national maritime decarbonisation strategy that identifies the specific measures required to reduce the carbon intensity of the Bangladeshi fleet, the investments in port infrastructure required to support the adoption of alternative fuels, and the training and capacity building required to prepare Bangladeshi seafarers and maritime professionals for the zero-emission shipping future.

11.2 Alternative Fuels and Bangladesh's Maritime Energy Transition

The transition to zero-emission shipping will require the shipping industry to adopt alternative fuels that produce little or no greenhouse gas emissions on a lifecycle basis. The principal alternative fuels currently under development include liquefied natural gas (LNG, a transitional fuel), methanol, ammonia, hydrogen, and biofuels. Each of these fuels has different characteristics in terms of energy density, safety, infrastructure requirements, and lifecycle emissions, and the choice of fuel will depend on the specific characteristics of the ship, the trading route, and the regulatory framework.

For Bangladesh, the most promising alternative fuel from a domestic resource perspective is green ammonia, produced from green hydrogen (hydrogen produced by electrolysis using renewable electricity) combined with nitrogen from the air. Bangladesh has significant potential for renewable energy generation, particularly solar and offshore wind, and the development of a green ammonia production industry would allow Bangladesh to develop a domestic supply of zero-emission marine fuel that could be exported to the regional shipping market and used by ships calling at Bangladeshi ports. The development of this industry would require significant investment in renewable energy capacity, electrolysis plants, ammonia synthesis plants, and port bunkering infrastructure, but it would also create significant economic opportunities, including jobs in renewable energy, chemical processing, and maritime services.

The legal framework for the development and supply of alternative marine fuels in Bangladesh requires development. The Petroleum Act of 1934, which governs the production, storage, and supply of petroleum products, does not address the novel safety and environmental characteristics of new alternative fuels such as hydrogen and ammonia. A comprehensive energy legislation reform, including specific provisions on the safety requirements for alternative fuel storage and bunkering, the environmental assessment requirements for alternative fuel production facilities, and the regulatory framework for alternative fuel pricing and quality assurance, would provide the legal infrastructure needed to support the development of Bangladesh's maritime energy transition industry.

CHAPTER 12: MARITIME EDUCATION, TRAINING, AND THE DEVELOPMENT OF HUMAN CAPITAL IN BANGLADESH'S MARITIME SECTOR

12.1 The Bangladesh Marine Academy and the Maritime Education System

The Bangladesh Marine Academy (BMA), established in 1962 at Jalalabad in Chittagong, is the premier maritime education institution in Bangladesh. It trains officers for the merchant marine, providing a four-year integrated programme leading to the award of a Certificate of Competency as Deck Officer or Engineer Officer, equivalent to the STCW Officer of the Watch (OOW) certificate. The BMA also provides post-sea training for senior officer certificates, including the Master, Chief Mate, and Chief Engineer certificates. Other maritime training institutions in Bangladesh include the National Maritime Institute, the Marine Fisheries Academy, and a number of private maritime training centres operating under the oversight of the DOS.

The BMA's training programmes are approved by the DOS as meeting STCW requirements, and the certificates issued by the BMA are recognised by many flag states for the purpose of employing BMA-trained officers on their ships. The EU's recognition of Bangladeshi seafarer certificates, discussed in Chapter 2 of this Part, is a critical dimension of the marketability of Bangladeshi seafarers in the global labour market, and the maintenance and strengthening of EU recognition requires continuous improvement in the quality of BMA training and of the DOS's certification procedures.

The development of Bangladesh's maritime education system requires investment in several dimensions. The physical infrastructure of the BMA and other maritime training institutions requires updating and expansion to accommodate the growing demand for maritime training and to meet the equipment requirements of modern STCW-compliant training, including full-mission ship simulators, engine room simulators, and professional survival craft equipment. The academic and instructional staff of maritime training institutions require continuous professional development to keep abreast of changes in international maritime law, technology, and best practice. And the curriculum of maritime training programmes requires regular review and updating to reflect the changing demands of the shipping industry, including the skills required for the operation of zero-emission ships and the digital technologies (such as autonomous vessels and e-navigation systems) that are transforming the industry.

12.2 The Legal Status of Bangladeshi Seafarers: Recruitment, Contracts, and Protection

The recruitment and employment of Bangladeshi seafarers for service on foreign-flagged ships is governed by a combination of domestic labour law, the MLC 2006, and the contractual arrangements established through collective bargaining between shipowners' associations and seafarers' unions. The recruitment of seafarers in Bangladesh is conducted by licensed manning agencies, which act as intermediaries between Bangladeshi seafarers and foreign ship owners and managers. The licensing and regulation of manning agencies is the responsibility of the DOS under the Merchant Shipping Ordinance.

The legal framework for the protection of Bangladeshi seafarers in their employment on foreign ships is inadequate in several respects. The MLC 2006's requirements for seafarers' employment agreements, which specify the content of the agreement, the minimum notice periods, the entitlements to paid leave and repatriation, and the mechanisms for the resolution of disputes, are not fully reflected in the standard contracts used by Bangladeshi manning agencies. The enforcement of the MLC 2006 requirements for seafarers on foreign-flagged ships carrying Bangladeshi crew is the responsibility of the flag state, not Bangladesh, but Bangladesh has a legitimate interest in ensuring that its seafarers are provided with the protections to which they are entitled under international law.

The development of a Seafarers' Welfare Act, specifically addressing the rights and protections of Bangladeshi seafarers employed on both domestic and foreign-flagged ships, would be an important legislative reform. Such an Act should establish minimum standards for seafarers' employment agreements, create a Seafarers' Welfare Fund financed by contributions from manning agencies and shipowners, provide for the establishment of a seafarers' welfare commissioner with authority to investigate complaints and enforce the Act's provisions, and

create a system for the provision of legal assistance to seafarers with wage claims or other disputes against their employers.

CHAPTER 13: THEORETICAL SYNTHESIS - SOVEREIGNTY, COMMERCE, AND JUSTICE IN BANGLADESH'S MARITIME TRANSPORT LAW

13.1 The Triangular Relationship of Sovereignty, Commerce, and Justice

The analysis of Bangladesh's maritime transport law framework in the preceding chapters of this Part reveals a triangular relationship among three sets of values that must be balanced in any comprehensive legal reform. The first is national sovereignty, represented by Bangladesh's interest in governing its maritime territory, its shipping registry, its ports, and its seafarers in accordance with its own legal framework and national development objectives. The second is international commerce, represented by the requirements of an internationally integrated shipping industry that demands legal predictability, adherence to international standards, and freedom from arbitrary or discriminatory regulation. The third is social and environmental justice, represented by the rights of seafarers, the protection of the marine environment, the rights of coastal communities affected by shipping activities, and the equitable distribution of the benefits and costs of maritime commerce.

These three sets of values are not always in conflict, but they are not always in harmony either. The pursuit of sovereignty, manifested in the assertion of flag state exclusivity and the preference for domestic regulation, can conflict with the requirements of international commerce if it produces regulation that diverges from international standards. The pursuit of commercial efficiency, manifested in the preference for open registries, minimal regulation, and freedom of contract, can conflict with the requirements of justice if it enables the exploitation of seafarers and the externalisation of environmental costs. And the pursuit of justice, manifested in the demand for strong labour standards, environmental protection, and equitable access to the benefits of maritime commerce, can conflict with both sovereignty and commercial efficiency if it imposes costs or restrictions that are incompatible with the competitive demands of the international shipping market.

The legal framework of UNCLOS, the IMO conventions, and the MLC 2006 represents a negotiated balance among these three sets of values, embodying compromises that reflect the relative power of different states and interests at the time of negotiation. The challenge for Bangladesh, as a developing coastal state with strong interests in sovereignty, commerce, and justice but relatively limited power in the international negotiating arena, is to navigate this balance in a way that advances its national interests while fulfilling its international obligations and upholding its stated commitment to the values of sustainable development, workers' rights, and environmental protection.

13.2 The Natural Law Tradition and Maritime Justice

The natural law tradition in jurisprudence, from its ancient and medieval origins through the work of Grotius, Vattel, and their successors, provides a rich philosophical resource for thinking about the justice dimensions of maritime transport law. Natural law theory holds that there are principles of justice that are grounded in reason, in human nature, or in the divine order, and that legal systems should be evaluated and reformed in accordance with these principles, regardless of what the positive law of the state or the customary practices of the international community may say.

Applied to maritime transport law, natural law theory generates a number of substantive propositions. The proposition that seafarers, as human beings, are entitled to basic conditions of decent work and human dignity regardless of the nationality of their flag state or the contractual arrangements their employers impose, is a natural law proposition that underpins the MLC 2006 and the broader human rights approach to maritime labour law. The proposition that the marine environment, as the common inheritance of all humanity, should be protected from pollution and degradation that is attributable to the commercial activities of particular actors, is a natural law proposition that underpins the MARPOL Convention and the emerging framework of climate obligations confirmed by the 2024 ITLOS Advisory Opinion.

The natural law tradition also provides a framework for criticising existing positive law when it falls short of justice. Bangladesh's domestic maritime transport law, as analysed in the preceding chapters, falls short of natural law standards in several respects: it does not adequately protect the rights of seafarers, it fails to prevent the environmental degradation caused by the ship recycling industry, it provides inadequate compensation for maritime workers injured in the course of their employment, and it does not enforce the international standards that Bangladesh has accepted as binding through treaty ratification. The natural law critique of this framework is clear and compelling: it is not merely technically deficient but normatively inadequate, failing to embody the principles of justice that legitimate law should express.

13.3 Positivism, Effectiveness, and the Rule of Law in Maritime Governance

The positivist tradition in jurisprudence, associated with John Austin, H.L.A. Hart, and the modern analytical legal philosophy that they founded, provides a different perspective on the challenges of maritime transport law reform. For positivists, law is law because it is enacted and enforced by the appropriate authority, not because it embodies any particular substantive values. The evaluation of law, on this view, is primarily a question of effectiveness: does the legal system actually achieve the regulatory objectives that it sets out to achieve?

Applied to Bangladesh's maritime transport law, the positivist question is whether the existing legal framework, combined with the institutional capacity of the relevant regulatory authorities, is effective in ensuring that ships are safe, that seafarers are protected, that the environment is not polluted, and that maritime commercial disputes are resolved efficiently and predictably. The answer, as this commentary's analysis has demonstrated, is largely negative: the legal framework is incomplete, inconsistently enforced, and inadequate to the demands of modern international maritime governance. The reform agenda that this Part proposes is justified on positivist grounds as much as on natural law grounds: it is not only the right thing to do from a justice perspective but the effective thing to do from a governance perspective.

The rule of law in the maritime context requires not merely the existence of a comprehensive legal framework but its consistent and non-discriminatory enforcement, the availability of accessible and effective dispute resolution mechanisms, and the accountability of regulatory authorities for the exercise of their powers. The assessment of Bangladesh's maritime governance performance against these rule of law standards reveals significant deficiencies, particularly in the areas of enforcement, the independence of marine casualty investigation, and the accessibility of admiralty jurisdiction for small claimants and poor seafarers.

13.4 Critical Theory and the Politics of Maritime Law Reform

The critical legal studies perspective, discussed in Part One of this textbook, provides an important corrective to both the natural law and the positivist approaches to maritime transport law reform. CLS theory insists that legal reform is always a political process, shaped by the relative power of different interests and the ideological assumptions that dominate the institutional context in which reform takes place. The reform of Bangladesh's maritime transport law cannot be treated as a purely technical or administrative exercise; it is inevitably shaped by the political economy of the shipping industry, the power of the ship recycling companies, the weakness of organised labour in the maritime sector, and the ideological commitments of the government and the bureaucracy.

From a CLS perspective, the comprehensive reform agenda proposed in this Part faces significant political obstacles. The ship recycling industry, which is economically powerful and politically well-connected, has historically resisted reforms that would increase its compliance costs. The manning agencies that supply Bangladeshi seafarers to the global market have resisted regulations that would limit their flexibility in negotiating employment terms. The government, which is dependent on maritime sector revenues and on the political support of maritime industry interests, may be reluctant to pursue reforms that would impose costs on powerful constituencies.

The political economy analysis suggests that maritime law reform in Bangladesh requires not only a compelling technical and legal case but a political strategy that builds a coalition of support for reform, including the labour movement, environmental civil society, international development partners, and reform-minded elements within the government and the maritime industry itself. The Bangladesh Merchant Marine Officers' Association and the Bangladesh Seamen's Union, which represent the interests of maritime workers, are natural allies in the advocacy for stronger labour standards and better working conditions. International organisations including the ILO, the IMO, the World Bank, and the Asian Development Bank have provided and could provide additional support for maritime governance reform in Bangladesh, including technical assistance, capacity building, and in some cases financial support for the institutional investments required.

CHAPTER 14: A COMPREHENSIVE REFORM AGENDA FOR BANGLADESH'S MARITIME TRANSPORT LAW

14.1 Summary of Key Reform Priorities

The analysis of Bangladesh's maritime transport law framework in the preceding chapters of this Part has identified a comprehensive set of reform priorities that can be grouped under five broad headings:

Legislative reform, encompassing the replacement of the Merchant Shipping Ordinance of 1983 with a comprehensive new Merchant Shipping Act, the enactment of a standalone Ship Recycling Act, the modernisation of the Admiralty Court Act, the reform of the Port Authority legislation, and the development of a Seafarers' Welfare Act.

Ratification of international conventions, encompassing the ratification of the International Convention on Salvage of 1989, the International Convention on Maritime Liens and Mortgages of 1993, the Convention on Limitation of Liability for Maritime Claims (1996 Protocol), the Nairobi International Convention on the Removal of Wrecks, the Bunkers Convention of 2001, the ILO Occupational Safety and Health Conventions (No. 155 and No. 187), and the full implementation of the Hong Kong Convention on Ship Recycling now that it has entered into force.

Institutional reform, encompassing the strengthening of the Department of Shipping's capacity for flag state inspection, port state control, seafarer certification, and marine casualty investigation; the establishment of a National Committee for Maritime Safety and Environmental Protection; the reform of the Bangladesh Coast Guard's legal framework; and the development of an integrated Maritime Domain Awareness system.

Capacity building, encompassing investment in the Bangladesh Marine Academy and other maritime education institutions, the development of a cadre of qualified maritime lawyers, the training of DOS staff in international maritime law and regulation, and the development of a national maritime decarbonisation strategy.

Policy development, encompassing the development of an integrated blue economy legal framework, the adoption of a national maritime safety strategy, engagement with the IMO on the decarbonisation agenda, participation in the BIMSTEC AMTC implementation process, and the development of a comprehensive approach to the maritime governance of Bangladesh's outer continental shelf.

14.2 The Sequencing of Reform: Priorities and Phasing

The reform priorities identified above cannot all be pursued simultaneously, and their sequencing requires careful consideration of the relative urgency of different reforms, the availability of institutional capacity to manage the reform process, and the political feasibility of different reform packages.

In the immediate term, the most urgent reforms are those required by Bangladesh's existing international obligations that are currently not adequately implemented in domestic law. These include the full implementation of the Hong Kong Convention on Ship Recycling, which entered into force on 26 June 2025 and which creates immediate compliance obligations for Bangladesh; the implementation of the IMO's CII and EEXI requirements on Bangladeshi-flagged ships; the

strengthening of the MLC 2006 implementation in the Bangladeshi fleet; and the improvement of Bangladesh's port state control inspection programme to meet its Tokyo MOU commitments.

In the medium term, the legislative reform priorities should be the enactment of the comprehensive new Merchant Shipping Act and the Ship Recycling Act, the modernisation of the admiralty jurisdiction framework, and the ratification of the key international conventions identified above.

In the longer term, the institutional development priorities, including the sustained investment in the capacity of the DOS and the Bangladesh Marine Academy and the development of the national maritime decarbonisation infrastructure, represent a continuing and evolving programme of investment in Bangladesh's maritime governance capacity.

14.3 The Role of Parliament, Civil Society, and the International Community in Maritime Law Reform

The reform of Bangladesh's maritime transport law is not solely a task for the executive branch of government and the maritime regulatory authorities. Parliament has an essential role in enacting the legislative reforms required and in providing democratic oversight of the maritime regulatory regime. Parliamentary committees with jurisdiction over shipping and maritime affairs should be strengthened with technical expertise in maritime law and international maritime conventions, so that they can provide informed oversight of the implementation of Bangladesh's international maritime obligations and of the exercise of regulatory powers by the DOS and other maritime authorities.

Civil society organisations, including seafarers' unions, environmental NGOs, community-based organisations representing coastal fishing communities, and academic and research institutions with maritime expertise, have a vital role in monitoring the implementation of maritime law and regulations, advocating for the rights of vulnerable groups including seafarers and coastal communities, and contributing to the public discourse on maritime policy and reform. The development of a vibrant maritime civil society in Bangladesh, with the expertise and the institutional capacity to engage effectively with regulatory processes and parliamentary oversight, is an important long-term investment.

The international community, including the IMO, the ILO, the World Bank, the Asian Development Bank, and bilateral development partners, can support Bangladesh's maritime law reform through technical assistance, capacity building, and financial support for the institutional investments required. Bangladesh should actively seek international support for its maritime governance reform agenda and should develop specific proposals for partnership with international organisations and bilateral donors.

The academic and research community in Bangladesh, including the maritime law programme at the Bangladesh Marine Academy, the Faculty of Law at the University of Dhaka and other leading universities, and research institutions with maritime expertise, has an essential role in generating the legal and policy analysis that should inform the reform agenda. The development of a Bangladesh Centre for Maritime Law and Policy, as a research institution dedicated to the

development of the legal and policy framework for Bangladesh's maritime sector, would be a valuable institutional investment.

CONCLUDING OBSERVATIONS TO PART TWELVE

Part Twelve has undertaken a comprehensive examination of the international shipping law framework, the maritime labour law system, port state control, ship recycling, admiralty jurisdiction, marine insurance, and the institutional architecture of maritime transport governance in Bangladesh. The analysis has drawn on the historical development of international maritime law from its ancient origins through the establishment of the IMO regulatory system, on the philosophical traditions of natural law, positivism, critical legal studies, and human rights theory, on the most recent developments in international maritime law including the MLC 2006, the Hong Kong Convention, the IMO's 2023 GHG Strategy, and the implications of the 2024 ITLOS Advisory Opinion for maritime environmental governance, and on comparative experience from India, Indonesia, and other developing maritime states.

The central finding of this Part is that Bangladesh's maritime transport law framework is substantially inadequate to the demands of its international obligations, its national development ambitions, and the requirements of justice for its seafarers, coastal communities, and the marine environment. The gap between international obligation and domestic implementation is significant, the gap between formal legal standards and actual enforcement practice is often wider still, and the institutional capacity of the maritime regulatory authorities is insufficient for the comprehensive governance of a maritime territory of 118,813 square kilometres and a growing maritime sector.

The reform agenda proposed in this Part is comprehensive, ambitious, and long-term. It requires sustained political commitment, significant institutional investment, active engagement with the international maritime community, and the mobilisation of a broad coalition of support including the shipping industry, maritime workers, environmental civil society, and international development partners. It is not a reform that can be accomplished in a single legislative session or by a single government. But it is a reform that Bangladesh must begin, because the consequences of inaction are the continued exploitation of its seafarers, the continued degradation of its marine environment, the continued competitive disadvantage of its shipping industry, and the continued failure to translate the legal victories of the Bay of Bengal arbitrations into the practical reality of a well-governed maritime territory.

The law of the sea is, as this commentary has emphasised throughout, not merely a technical body of rules. It is the expression of the values of the international community in relation to the ocean that covers seventy percent of the earth's surface and that sustains the life, the commerce, and the culture of billions of people. For Bangladesh, whose identity is shaped by its rivers and its sea, whose economy depends on maritime trade, and whose future is bound up with the responsible governance of the Bay of Bengal, the law of the sea is not an abstract international legal construct but a living framework of rights, obligations, and opportunities. The reform of its maritime transport law is accordingly not merely a legal project but a national project, and it

deserves the most sustained and serious engagement of Bangladesh's legal, political, and civil society institutions.

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Part Twelve concludes here. Part Thirteen will examine offshore energy law, hydrocarbon governance, and the legal framework for renewable maritime energy in Bangladesh's Exclusive Economic Zone and continental shelf.

PART THIRTEEN

OFFSHORE ENERGY LAW, HYDROCARBON GOVERNANCE, AND THE LEGAL FRAMEWORK FOR RENEWABLE MARITIME ENERGY IN BANGLADESH'S EXCLUSIVE ECONOMIC ZONE AND CONTINENTAL SHELF

A COMMENTARY ON SOVEREIGN RIGHTS, RESOURCE EXPLOITATION, ENVIRONMENTAL OBLIGATION, AND THE ENERGY TRANSITION IN BANGLADESH'S MARITIME DOMAIN

PREFACE TO PART THIRTEEN

The preceding twelve Parts of this commentary have progressively built a comprehensive jurisprudential and legislative map of Bangladesh's law of the sea, moving from the ancient philosophical foundations of maritime sovereignty through the UNCLOS framework, the landmark international arbitrations that defined Bangladesh's maritime territory, the fisheries governance crisis, the ship recycling controversies, the maritime transport legal architecture, and the institutional dimensions of Bangladesh's maritime administration. Each Part has exposed both the achievements and the deficiencies of Bangladesh's engagement with the international

law of the sea. Part Twelve concluded with the finding that Bangladesh's maritime transport law requires fundamental and comprehensive reform, and it directed the reader's attention toward the subject of the present Part.

This Part examines one of the most economically significant, legally complex, and politically contested dimensions of Bangladesh's maritime law: the governance of energy resources in its Exclusive Economic Zone and continental shelf. The Bay of Bengal beneath Bangladesh's maritime jurisdiction is, by the assessment of the world's most experienced energy geologists, one of the most underexplored frontier energy provinces on earth. The Bengal Fan, stretching southward from the mouth of the Meghna River into the deep waters of the Bay, exhibits structural characteristics analogous to proven hydrocarbon provinces in the Gulf of Mexico and the Niger Delta. Gas has been confirmed in commercial quantities in closely adjacent geological formations in India's Krishna-Godavari basin to the west and in Myanmar's Rakhine basin to the east. The probability that significant hydrocarbon resources exist within Bangladesh's own offshore blocks is, on geological assessment, substantial.

Yet Bangladesh has exploited almost none of this potential. A nation that secured, through the painstaking and expensive process of international arbitration, a maritime territory of 118,813 square kilometres, has licensed only a handful of offshore blocks for exploration, has not concluded a single offshore deep-water Production Sharing Contract with an international oil company in over a decade prior to 2024, and has no producing offshore hydrocarbon fields outside the relatively shallow and mature Sangu gas field, which ceased production in 2013. The reasons for this underperformance are partly geological, partly financial, and partly institutional, but they are also, fundamentally, legal. The legal framework for offshore energy governance in Bangladesh is inadequate, fragmented, unclear in key provisions, incompatible with the requirements of modern international energy investment, and insufficiently integrated with the broader framework of Bangladesh's maritime law and environmental law obligations.

Simultaneously, Bangladesh faces a rapidly evolving global legal and policy environment for maritime energy governance. The international community's adoption of the goal of net-zero greenhouse gas emissions by mid-century, confirmed in the Paris Agreement and the IMO's 2023 GHG Strategy, and the 2024 ITLOS Advisory Opinion's confirmation that anthropogenic emissions constitute marine pollution under UNCLOS, are fundamentally reshaping the legal framework within which offshore energy activities are assessed. The rapid development of offshore renewable energy technologies, particularly floating offshore wind, tidal current energy, and wave energy, is opening new possibilities for the generation of clean energy in Bangladesh's maritime zones. The Bangladesh government's Vision 2041 commitment to achieving forty percent of electricity generation from renewable sources by 2041 cannot plausibly be achieved without significant offshore renewable energy development. And the geopolitical dynamics of the Bay of Bengal, where India, China, and international energy companies are all actively competing for influence and resources, provide both the incentive and the urgency for Bangladesh to develop a coherent and effective legal framework for offshore energy governance.

This Part provides the comprehensive legal, philosophical, jurisprudential, and policy analysis that Bangladesh's offshore energy governance challenge demands. It examines the international legal framework for offshore energy sovereignty under UNCLOS, the development of

Bangladesh's domestic legal framework for offshore hydrocarbon governance, the Production Sharing Contract system and its legal architecture, the emerging legal framework for offshore renewable energy, the environmental law dimensions of offshore energy governance in the post-2024 ITLOS Advisory Opinion era, the international investment law dimensions of offshore energy contracts, comparative experiences from other developing coastal states, and the theoretical frameworks through which Bangladesh's offshore energy governance challenge can be understood. It concludes with a comprehensive reform agenda.

CHAPTER 1: THE INTERNATIONAL LEGAL ARCHITECTURE OF OFFSHORE ENERGY SOVEREIGNTY

1.1 The UNCLOS Framework for Energy Resource Rights: Articles 56, 60, 77, and Beyond

The legal foundation of coastal state rights over energy resources in its maritime zones is provided by the United Nations Convention on the Law of the Sea, whose provisions on the Exclusive Economic Zone and the continental shelf together establish a comprehensive framework of sovereign rights over both the living and non-living resources of the sea and seabed under national jurisdiction. Understanding this framework, and particularly its treatment of energy resources as a specific category within the broader system of maritime resource rights, is the essential starting point for any analysis of offshore energy governance.

Article 56(1)(a) of UNCLOS provides that in the EEZ the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil. Article 56(1)(b) further provides that coastal state jurisdiction extends to activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds. This specific reference to energy production from natural forces, inserted during the UNCLOS III negotiations largely in response to growing awareness of the potential of ocean renewable energy technologies, is legally significant because it explicitly extends coastal state sovereign rights to encompass not only the extraction of pre-existing hydrocarbon and mineral resources from the seabed, but also the capture and commercial exploitation of dynamic natural forces, such as wind and current, within the maritime zone.

The significance of this provision for the contemporary offshore renewable energy sector, which had barely emerged as a practical commercial technology when UNCLOS was adopted in 1982, has been elaborated upon by scholars including Churchill and Lowe, Tanaka, and more recently by Proelss and colleagues in the context of the rapidly expanding offshore wind industry. The 2023 journal article by Giannopoulos in the Review of European, Comparative and International Environmental Law, cited in the scholarship of this field, established the principle that UNCLOS Article 56(1)(b) provides a sufficiently broad legal basis for the comprehensive regulation of offshore energy production by coastal states, subject to the environmental obligations under Part XII and the freedom of navigation rights of other states under Article 58. The Australian and New Zealand domestic experience with offshore wind law, examined in detail in a 2023 article in Ocean Development and International Law, confirmed that the UNCLOS framework can

accommodate a comprehensive domestic legal regime for offshore wind without any need for amendment to the Convention itself.

Article 60 of UNCLOS is the specific instrument through which the coastal state exercises its jurisdiction over the physical installations through which offshore energy production is conducted. It provides that in the EEZ the coastal state shall have the exclusive right to construct and to authorise and regulate the construction, operation, and use of artificial islands, installations, and structures for the purposes provided for in Article 56 and other economic purposes. It further provides that the coastal state may, where necessary, establish reasonable safety zones around such installations, in which it may take appropriate measures to ensure the safety both of navigation and of the installations and structures. The safety zone may extend to a distance of 500 metres around installations as a general rule, though wider zones may be established for particular purposes.

The legal architecture of Article 60 raises several questions of jurisprudential significance in the context of Bangladesh's offshore energy governance. The first is whether the power to authorise and regulate the construction of installations can be exercised by the coastal state in a manner that discriminates between potential investors on the basis of their nationality. UNCLOS itself does not expressly prohibit such discrimination, but the principle of due regard for the rights of other states in the EEZ, combined with the network of bilateral investment treaties to which Bangladesh is party, and the national treatment and most-favoured-nation provisions of those treaties, creates a complex legal environment in which nationality-based discrimination in the award of offshore energy licences could give rise to international legal liability.

The second jurisprudential question raised by Article 60 concerns the legal characterisation of installations established for offshore energy production and their status under UNCLOS and general international law. Are they to be treated as part of the territory of the coastal state for all purposes, or do they have a more limited legal status as artificial structures in the EEZ? The dominant view in the scholarship, supported by the travaux preparatoires of UNCLOS, is that artificial islands and installations in the EEZ are not territory of the coastal state in the full constitutional sense; they do not generate their own maritime zones, they are subject to the sovereignty of the coastal state as a matter of jurisdiction rather than territorial sovereignty, and the legal regime applicable to activities within safety zones is the domestic law of the coastal state as applied through its EEZ jurisdiction rather than through territorial sovereignty. This distinction has practical implications for the enforcement of environmental standards, the application of customs and immigration law, and the exercise of criminal jurisdiction over activities on installations.

The continental shelf provisions of UNCLOS, particularly Article 77, extend sovereign rights to the non-living resources of the seabed and subsoil, including hydrocarbons. Article 77(1) provides that the coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. Article 77(2) specifies that the rights referred to are exclusive in the sense that if the coastal state does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal state. This exclusivity of continental shelf resource rights is absolute, unlike the sovereign rights in the EEZ water column, which coexist with the freedoms of other

states under Article 58. The exclusivity of continental shelf rights means that the mere existence of the coastal state's claim to the shelf, even without active exploitation, is sufficient to preclude any other state or entity from conducting resource activities there.

The relationship between EEZ rights under Article 56 and continental shelf rights under Article 77 is important for offshore energy governance because hydrocarbon extraction involves activities both in the water column and on the seabed. An offshore oil rig, for example, operates on the surface of the sea (within the EEZ water column) while drilling into the seabed and subsoil (within the continental shelf). The legal basis for the coastal state's authority over the entire integrated operation is provided by both Article 56 and Article 77 concurrently, and the respective provisions are generally treated as complementary rather than as alternatives.

1.2 The Concept of Permanent Sovereignty over Natural Resources and Its Application to Offshore Energy

The principle of permanent sovereignty over natural resources, which was a central political and legal demand of developing states in the negotiations leading to the UNCLOS framework and which found expression in the United Nations General Assembly Resolution 1803 of 1962 and subsequent instruments, is the jurisprudential foundation of the coastal state's exclusive authority over offshore energy resources. This principle holds that each state has an inherent right to ownership and control over the natural resources within its jurisdiction, that this right cannot be alienated through unequal treaties or imposed by more powerful states, and that any arrangements for the exploitation of these resources by foreign entities must be conducted on terms that ensure the equitable benefit of the host state.

The principle of permanent sovereignty has deep philosophical roots in the broader tradition of self-determination, which was one of the dominant legal and political ideas of the decolonisation period of the mid-twentieth century. For newly independent states like Bangladesh, the assertion of sovereignty over natural resources, including offshore hydrocarbon resources, was not merely an economic claim but a political and symbolic assertion of the independence and dignity of the nation. The legal form through which this sovereignty has been expressed in the offshore energy context is the system of licensing and Production Sharing Contracts, through which the coastal state grants temporary rights of exploitation to private entities, domestic or foreign, while retaining the ultimate ownership of the resource and the right to a share of the production.

The political philosophy of resource sovereignty has been the subject of important scholarly debate, engaging the theory of property rights, the theory of justice, and the theory of international distributive equity. John Rawls' theory of justice, as developed in A Theory of Justice of 1971, provides one perspective: on the difference principle, inequalities in the distribution of natural resource revenues are just only if they benefit the least-advantaged members of society. Applied to offshore energy governance, this principle would require that the revenues from offshore hydrocarbon exploitation be directed toward the benefit of Bangladesh's poorest people, rather than being captured by political elites, inefficient state enterprises, or foreign corporations. The practical design of fiscal regimes for offshore energy exploitation in Bangladesh should, on the Rawlsian analysis, be evaluated not merely by technical fiscal criteria but by reference to the distributional outcomes it produces.

Charles Beitz, in Political Theory and International Relations of 1979, extended the Rawlsian approach to the international level, arguing that the global distribution of natural resources is morally arbitrary from the perspective of any individual state's or people's just claim to them, and that international distributive justice requires mechanisms for the sharing of natural resource benefits across state boundaries. The common heritage of mankind principle, as incorporated in UNCLOS Part XI for the Area beyond national jurisdiction, embodies a partial realisation of this international distributive justice principle, though the application of common heritage governance to the deep seabed resources of the Area is controversial in practice. The implication for Bangladesh's offshore energy governance is that, while the principle of permanent sovereignty supports Bangladesh's exclusive rights over its offshore resources, the principle of international distributive justice also supports Bangladesh's advocacy for international mechanisms that facilitate technology transfer, capacity building, and financial flows to enable developing states to effectively exploit and govern their maritime energy resources.

The TWAIL critique of permanent sovereignty, associated with scholars like Antony Anghie and BS Chimni, points to the ways in which the principle has been systematically undermined in practice by the structure of international investment law and the bargaining power asymmetries between developing host states and transnational energy corporations. Anghie's Imperialism, Sovereignty and the Making of International Law argues that the history of international petroleum law is in part a history of the erosion of host state sovereignty through the mechanisms of international investment arbitration, which has repeatedly struck down host state attempts to renegotiate unfavourable contracts or to impose environmental and social obligations on foreign investors in the resource sector. This critique is directly relevant to Bangladesh's offshore energy governance, where the threat of international investment arbitration against regulatory measures affecting the interests of foreign energy investors is a real constraint on the policy space available to the government.

1.3 The Relationship Between Offshore Energy Law and the Environment: The Post-2024 Legal Landscape

The 2024 ITLOS Advisory Opinion in Case No. 31 has profoundly altered the legal landscape for offshore energy governance, adding a layer of climate-related environmental obligation that sits on top of the existing framework of Part XII of UNCLOS. As the Advisory Opinion confirmed, anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of UNCLOS, and states have due diligence obligations under Part XII to prevent, reduce, and control such pollution. The implication of this confirmation for offshore energy governance is direct and significant: the authorisation of offshore hydrocarbon exploration and production activities, which necessarily involve the emission of greenhouse gases through combustion, flaring, and fugitive emissions, is a form of authorisation of marine pollution for which the coastal state bears international legal responsibility.

This does not mean, of course, that UNCLOS prohibits offshore hydrocarbon development; no such interpretation can be derived from the Convention's text or from the Advisory Opinion's reasoning. UNCLOS requires states to take measures to prevent, reduce, and control marine pollution, not to eliminate it entirely, and the standard of due diligence is one of conduct rather than of result. A coastal state that authorises offshore hydrocarbon development subject to

adequate environmental safeguards, emission reduction requirements, and environmental impact assessment, and that implements its Paris Agreement commitments consistently with the overall objective of limiting global temperature rise, can be regarded as meeting its due diligence obligations under UNCLOS as interpreted by the Advisory Opinion.

However, the Advisory Opinion does have important practical implications for the design of Bangladesh's offshore energy legal framework. First, it requires that environmental impact assessment of offshore energy projects include an assessment of greenhouse gas emissions and their contribution to marine pollution, not merely the traditional categories of oil spill risk and habitat disturbance. Second, it requires that licensing conditions for offshore energy activities include emission reduction requirements and monitoring obligations that are consistent with Bangladesh's due diligence obligations under UNCLOS. Third, it provides a legal basis for Bangladesh to require that offshore energy operators, including foreign companies, implement best available technology for the control of greenhouse gas emissions, including flare reduction systems, carbon capture and storage, and the use of low-emission energy sources for offshore operations.

The ICJ Advisory Opinion of July 2025 on states' obligations under international law in relation to climate change reinforced and extended the 2024 ITLOS analysis, confirming that obligations regarding climate mitigation have erga omnes character, meaning that they are owed to the international community as a whole and not merely to specific injured states. For offshore energy governance, this erga omnes character of climate obligations means that third states may have standing to challenge, through appropriate international mechanisms, a coastal state's authorisation of offshore energy activities that make a significant contribution to global greenhouse gas emissions without adequate mitigation measures. The practical implications of this development are still being worked out in the scholarship and in state practice, but it represents a significant development in the legal environment for offshore energy governance.

The ScienceDirect article of August 2024 on maritime law enforcement concerning offshore energy platforms elaborated on the specific enforcement challenges created by the uncertain legal status of offshore energy platforms under UNCLOS, noting that the different regulatory frameworks applicable to land-based pollution and vessel-source pollution create gaps that complicate the enforcement of environmental standards on offshore energy installations. This gap is directly relevant to Bangladesh, whose domestic legal framework does not specify the environmental regulatory regime applicable to offshore installations, creating legal uncertainty about which authority is responsible for environmental enforcement, what standards apply, and how violations are to be prosecuted.

1.4 The Doctrine of the Precautionary Principle in Offshore Energy Governance

The precautionary principle, which was elaborated in the Rio Declaration on Environment and Development of 1992 and which has since become a widely recognised norm of international environmental law, holds that where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The application of the precautionary principle to offshore energy governance creates specific requirements for the design of licensing

and regulatory frameworks that go beyond what traditional risk-assessment approaches would require.

In the context of Bangladesh's offshore energy governance, the precautionary principle is relevant in several specific ways. The potential for major offshore oil or gas blowouts, such as the Macondo disaster in the Gulf of Mexico in 2010, which released approximately 4.9 million barrels of oil into the ocean over a period of eighty-seven days, represents a category of catastrophic and irreversible environmental harm against which the precautionary principle demands robust preventive measures. The marine and coastal ecology of the Bay of Bengal, including the critically important mangrove ecosystems of the Sundarbans, the productive fisheries of the shallow shelf, and the coral ecosystems of St. Martin's Island and adjacent areas, would be devastated by a major offshore oil spill, and the effects would be felt across the entire region, affecting not only Bangladesh but India and Myanmar as well.

The application of the precautionary principle to offshore energy licensing in Bangladesh requires, at minimum, mandatory environmental impact assessment for all offshore exploration and production activities, well safety standards equivalent to those applied in leading offshore jurisdictions, mandatory oil spill response plans with demonstrated response capability, financial security requirements adequate to cover oil spill cleanup and compensation costs, and independent environmental monitoring and verification of compliance with environmental conditions. The current legal framework for offshore hydrocarbon governance in Bangladesh does not provide for all of these requirements in the specific and enforceable form that the precautionary principle demands.

The BBNJ Agreement adopted in June 2023, which established a framework for environmental impact assessment of activities in areas beyond national jurisdiction, provides a model and a standard of comparison for the domestic EIA requirements that should apply to activities within Bangladesh's EEZ and continental shelf. The BBNJ Agreement's EIA provisions require that assessments consider cumulative impacts, transboundary effects, climate change interactions, and the effects on biodiversity and ecosystem services. These standards, which apply beyond national jurisdiction, represent an international benchmark against which Bangladesh's domestic EIA requirements should be evaluated, and they confirm the direction in which international environmental standards for offshore activities are developing.

CHAPTER 2: BANGLADESH'S DOMESTIC LEGAL FRAMEWORK FOR OFFSHORE HYDROCARBON GOVERNANCE

2.1 The Historical Development of Bangladesh's Offshore Hydrocarbon Governance: From Colonial Inheritance to the Blue Economy Era

The governance of petroleum and natural gas resources in Bangladesh has its historical roots in the colonial-era petroleum legislation enacted by the British administration of India. The Petroleum Act of 1934, enacted by the colonial legislature and inherited by Bangladesh upon independence, established the foundational legal framework for the regulation of petroleum

activities, including provisions on the licensing of exploration and production operations, safety requirements for petroleum installations, and the control of petroleum storage and transport. This instrument, designed for a colonial economy with limited petroleum development and without any anticipation of the extensive offshore petroleum operations that would become possible with technological development, remained the principal legal basis for petroleum regulation in Bangladesh for decades after independence.

The significant evolution in Bangladesh's offshore hydrocarbon legal framework came with the establishment of the Bangladesh Oil, Gas and Mineral Corporation, known as Petrobangla, by the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985. Petrobangla was established as the state corporation responsible for the exploration, production, transmission, distribution, and marketing of petroleum products and natural gas in Bangladesh, and it was given the authority to enter into Production Sharing Contracts with domestic and foreign private companies for the exploration and development of oil and gas resources in designated blocks. The establishment of Petrobangla represented a significant institutional development, creating a permanent state entity with technical and commercial expertise in the upstream petroleum sector and providing the institutional basis for the Production Sharing Contract system that has been the central instrument of Bangladesh's offshore hydrocarbon development strategy.

The system of offshore block licensing through Production Sharing Contracts was introduced in Bangladesh in the 1970s, predating the establishment of Petrobangla, when the government entered into agreements with several international oil companies for the exploration of offshore blocks in the Bay of Bengal. These early agreements were negotiated against the background of the 1973 oil crisis and the global scramble for new hydrocarbon resources, and they were concluded by a country that had only recently achieved independence and that lacked the legal, technical, and institutional capacity to negotiate on fully informed and equal terms with sophisticated international energy corporations. The terms of these early agreements, which were heavily influenced by the model contracts developed by the international oil industry and which gave international companies favourable terms of cost recovery and profit sharing, have been subject to retrospective criticism as insufficiently protective of Bangladesh's interests.

The subsequent development of Bangladesh's PSC model through successive bidding rounds, including the Offshore Bidding Round of 2008 and the more recent Offshore Bidding Round launched in March 2024, has incorporated significant improvements in the terms offered to the government, reflecting both the increasing sophistication of Bangladesh's negotiating capacity and the general global trend toward more host-state-friendly petroleum fiscal terms. The 2024 Offshore Bidding Round, the first in approximately eight years and one of the most significant developments in Bangladesh's offshore energy governance in recent years, invited international oil companies to explore nine shallow sea blocks and fifteen deep-sea blocks in the Bay of Bengal. The round was launched at a time of heightened global energy security concerns following the geopolitical disruptions of 2022 and 2023, and it attracted significant interest from major international energy companies.

However, as reported by The Diplomat in March 2026, the original deadline for the 2024 Bidding Round was extended by fourteen months amid the political turmoil that followed the events of August 2024. The political uncertainty created by this turbulence illustrated with stark

clarity one of the most fundamental legal challenges in offshore energy governance: the structural tension between the long-term investment horizons of offshore energy projects, which require a decade or more of stable legal and political conditions from initial exploration through first production, and the short-term political cycles and instabilities of democratic governance. Deep-water exploration and production is not an activity that can be stopped and started at the pace of political change; it requires the continuous deployment of expensive equipment, skilled personnel, and technical expertise over a sustained period, and it demands legal certainty that the terms of the investment will be respected regardless of changes in government. The design of a legal framework that can provide this certainty while maintaining democratic accountability and the ability of governments to respond to changing circumstances is one of the central challenges of offshore energy law.

2.2 The Production Sharing Contract System: Legal Architecture and Analysis

The Production Sharing Contract is the dominant legal instrument through which coastal states in developing countries govern the relationship between the state and private investors in the exploration and production of offshore petroleum resources. The PSC model originated in Indonesia in the 1960s, where it was developed by Pertamina, the state oil company, as an alternative to the traditional concession model of petroleum licensing, which had been widely used in the Middle East and had given international oil companies ownership of the petroleum in the ground and relatively unfettered control over exploitation operations. The PSC model replaced this concession approach with a contractual arrangement under which the state retains ownership of all petroleum resources, the state oil company is formally the operator on behalf of the state, the private contractor provides exploration and development capital and recovers its costs from petroleum production (cost oil or cost gas), and the remaining production after cost recovery is split between the state oil company and the private contractor according to a negotiated production sharing formula.

The Production Sharing Contract model has several characteristics that make it particularly suitable for offshore petroleum development in developing countries with limited capital and technical resources. First, it allows the state to attract the capital and technology of international oil companies without relinquishing ownership of the resource, which is consistent with the principle of permanent sovereignty over natural resources. Second, it allocates the exploration risk primarily to the private contractor, who loses its entire investment if exploration is unsuccessful, while ensuring that if exploration is successful the state benefits from the first production through the cost recovery mechanism. Third, it provides a degree of fiscal flexibility, since the production sharing formula can be designed to increase the state's share as production volumes increase (a progressive fiscal regime), which helps to address the concern that highly profitable projects will generate excessive returns for the private contractor.

Bangladesh's standard PSC model, as used in successive offshore bidding rounds, has evolved through a number of iterations reflecting the negotiating experience of Petrobangla and the Bangladesh government and reflecting the competitive pressures of the global offshore energy investment market. The model PSC published for the 2024 Offshore Bidding Round incorporates several features that distinguish it from the earlier model PSCs and that reflect the government's

attempts to make the terms more competitive while also protecting the state's interests more effectively.

The key commercial terms of Bangladesh's standard offshore PSC can be summarised as follows. The contractor is obliged to carry out a minimum work programme in the exploration period, including specified seismic surveys and drilling of at least one exploration well. Cost recovery is capped at a specified percentage of production per year (typically seventy-five percent in the standard model, though this is subject to negotiation), with unrecovered costs carrying forward to subsequent periods. The production sharing formula divides the remaining production after cost recovery (known as profit oil or profit gas) between Petrobangla and the contractor according to a sliding scale linked to daily production rates or to an internal rate of return trigger. The contractor is subject to corporate income tax in Bangladesh on its share of profit oil or gas. Petrobangla has the right to participate in the development of any commercial discovery, typically at a specified participation level (twenty-five to thirty percent in the standard model), after paying its proportionate share of development costs from the time of the development decision.

The legal architecture of the PSC raises a number of important issues from the perspective of both international investment law and domestic constitutional law. The first is the question of the legal status of the PSC itself: is it a contract, a licence, a concession, or some hybrid instrument? The characterisation matters because it determines the applicable legal regime in the event of a dispute between the state and the contractor. If the PSC is characterised as a commercial contract, disputes are typically governed by the contract's own terms and subject to international commercial arbitration. If it is characterised as a regulatory licence, the state's regulatory power to amend or revoke its terms may be broader, subject only to the limitation that such amendments must not be discriminatory or arbitrary. If it is characterised as a species of administrative act, domestic administrative law and constitutional principles of legitimate expectation may apply. Bangladesh's PSC model does not clearly specify the legal characterisation of the instrument, and this creates legal uncertainty that is a legitimate concern for potential investors.

The stabilisation clause, which is a standard feature of international petroleum contracts, attempts to address this legal uncertainty by providing that the law applicable to the contract is frozen at the time of its conclusion, so that subsequent changes in domestic law do not affect the contractor's rights under the contract. The inclusion of stabilisation clauses in PSCs is widespread in the developing world, and Bangladesh's standard PSC model includes such a clause. However, the validity and enforceability of stabilisation clauses is a contested issue in international investment law, environmental law, and constitutional law. The argument against broad stabilisation clauses is that they prevent the host state from exercising its inherent regulatory powers to respond to changes in circumstances, including the enactment of new environmental laws required by the state's international obligations, without triggering liability to the investor. The 2024 ITLOS Advisory Opinion, which confirmed that states have continuing and evolving obligations to regulate marine pollution including greenhouse gas emissions, creates a specific tension with broad stabilisation clauses in petroleum contracts that seek to freeze the environmental regulatory framework as it stood at the time of contract conclusion.

The standard legal analysis of this tension, articulated by scholars including Cotula in his work on investor-state contracts and sustainable development, and by the International Energy Charter Secretariat in its guidance on climate-compatible investment frameworks, is that stabilisation clauses should be interpreted narrowly to protect investors from discriminatory or arbitrary changes in the general regulatory framework, but should not be interpreted as exempting investors from the application of new environmental standards that are of general application and that represent the host state's good-faith fulfilment of its international obligations. This interpretation, while intellectually sound, is not always reflected in the practice of international investment tribunals, which have sometimes given broad stabilisation clauses very extensive effect, protecting investors even against environmental regulatory changes. The ongoing reform of the international investment arbitration system, including the negotiations for a multilateral investment court and the revisions to the Energy Charter Treaty, will affect the balance between investor protection and regulatory freedom in the offshore energy context.

2.3 The Petrobangla Framework: Institutional Governance, Accountability, and the State Company Problem

Petrobangla occupies a dual role in Bangladesh's offshore energy governance that creates inherent tensions in its institutional design. On the one hand, it is the state's representative in the management of the national petroleum resources, responsible for ensuring that the state receives its fair share of petroleum revenues and that petroleum operations comply with the applicable law and the PSC terms. On the other hand, it is a commercial entity, responsible for its own financial performance and for the commercial management of its participation in petroleum development projects. These two roles, regulator and commercial participant, can and do come into conflict, and the failure to resolve this tension through appropriate institutional design is one of the most persistent and most damaging governance deficiencies in Bangladesh's offshore energy sector.

The regulatory functions of Petrobangla, including the negotiation and administration of PSCs, the approval of work programmes and budgets, the monitoring of contractor compliance, and the metering and verification of petroleum production, are exercises of public authority that should be conducted with transparency, accountability, and independence from commercial interests. The commercial functions of Petrobangla, including the management of its equity participation in development projects and the marketing of its share of production, are exercises of commercial judgment that should be conducted efficiently and in accordance with market conditions. When both sets of functions are performed by the same entity, the risk of regulatory capture, in which the regulator's decisions are influenced by its own commercial interests rather than by the public interest, is significant.

This problem, known in the comparative petroleum governance literature as the dual-function problem of state oil companies, has been identified and addressed in many petroleum-producing countries through the separation of the regulatory and commercial functions of the state oil company into distinct institutions. Norway's model, under which the Norwegian Petroleum Directorate (now the Norwegian Offshore Directorate) exercises the purely regulatory functions of petroleum administration while Equinor (formerly Statoil) operates as a commercial petroleum company competing with private sector operators, is widely regarded as one of the

most effective solutions to the dual-function problem. Brazil's model, under which the Agencia Nacional do Petroleo, Gas Natural e Biocombustiveis (ANP) exercises regulatory functions and Petrobras operates as a commercial entity, is another example. Both models have been extensively analysed in the academic literature on petroleum governance and the resource curse, and both provide relevant lessons for Bangladesh's institutional reform agenda.

The Bangladesh Petroleum Act, the Petrobangla Ordinance, and the relevant provisions of the Territorial Waters and Maritime Zones (Amendment) Act of 2021 do not provide for the separation of regulatory and commercial functions in offshore petroleum governance. The result is that Petrobangla occupies both roles, with the predictable consequence that its regulatory decisions are not always fully independent of its commercial interests, that the accountability of its regulatory decisions to the public and to parliament is limited, and that the quality of its regulatory oversight of PSC operators is not consistently high. The reform of this institutional framework, through the establishment of a dedicated Petroleum Regulatory Authority with responsibility for the regulatory functions currently performed by Petrobangla, while Petrobangla retains its commercial functions, is a central recommendation of this chapter.

2.4 The Natural Gas Governance Framework: Domestic Pricing, Export Policy, and the LNG Import Paradox

Natural gas is Bangladesh's most important primary energy source, providing approximately sixty percent of the country's total energy consumption. Bangladesh has significant domestic natural gas reserves, primarily in onshore fields in Sylhet and the Chittagong region, as well as offshore resources that have not yet been fully assessed or developed. The governance of natural gas, including the pricing of natural gas to domestic consumers, the allocation of gas between different uses (power generation, industrial feedstock, domestic cooking), the management of gas reserves, and the policy on gas exports and imports, is a matter of the highest economic and political significance.

The domestic price of natural gas in Bangladesh has historically been set by the government at below-market levels as a form of implicit subsidy to energy consumers and energy-intensive industries. This below-market pricing has several governance implications. First, it creates a fiscal drag on the natural gas sector, since Petrobangla and the gas distribution companies cannot recover their full costs from domestic sales revenues. Second, it creates a misalignment between the fiscal terms of offshore PSCs, which are calculated on the basis of the international market price of gas, and the actual revenues that Petrobangla can earn from the domestic sale of its share of production. Third, it generates strong political resistance to the reform of gas pricing, since any increase in domestic gas prices would be unpopular with consumers and industries that have come to depend on subsidised energy.

The LNG import situation is perhaps the most paradoxical aspect of Bangladesh's gas governance. Bangladesh, which has significant domestic natural gas resources and a large offshore frontier with high geological prospectivity for gas discoveries, has in recent years become a significant importer of Liquefied Natural Gas (LNG), paying international market prices for imported LNG while selling domestically produced gas at below-market prices. This paradox reflects the failure to develop domestic offshore gas resources at the pace required to

meet growing demand, combined with the political difficulty of raising domestic gas prices to levels that would make offshore development commercially attractive and that would reflect the actual cost of energy supply to Bangladesh's economy.

The legal framework for LNG import in Bangladesh has been developed relatively quickly in response to the supply emergency created by declining domestic gas production, but it is not well integrated with the broader legal framework for offshore energy governance. The construction and operation of LNG import terminals, the procurement of LNG cargoes, the pricing of regasified LNG to domestic consumers, and the fiscal treatment of LNG import costs are all governed by a combination of ad hoc contractual arrangements, administrative decisions, and subsidiary legislation that has not been consolidated or systematically reviewed. A comprehensive legal framework for gas governance, integrating the regulation of domestic exploration and production, LNG imports, gas pricing, and supply security, is needed to provide the coherent legal basis for Bangladesh's long-term energy security strategy.

2.5 The 2024 Offshore Bidding Round: Analysis and Critique

The 2024 Offshore Bidding Round represents the most significant recent development in Bangladesh's offshore hydrocarbon governance, and it deserves careful legal and policy analysis. The Round, launched in March 2024 by the government of Prime Minister Sheikh Hasina before the political events of August 2024, offered international oil companies the opportunity to acquire exploration rights over nine shallow sea blocks and fifteen deep-sea blocks in Bangladesh's EEZ and continental shelf. The geological basis for the round was compelling: as the TGS multi-client seismic survey described the Bengal Fan as one of the most extensively underexplored frontier regions in the world with significant evidence of working petroleum systems, and as Professor Badrul Imam of Dhaka University has argued, the structural similarities between the Bengal Fan's deep-water fold belt and the proven hydrocarbon provinces of the Gulf of Mexico and the Niger Delta provide strong geological grounds for optimism about deep-water discoveries.

The fiscal terms of the 2024 Round were designed to be competitive with other frontier exploration opportunities in the region, reflecting the government's recognition that Bangladesh had lost significant ground in the competition for offshore energy investment during the eight-year gap between the 2016 and 2024 rounds. Myanmar, Sri Lanka, and India have all made significant progress in their offshore exploration programmes during this period, and Bangladesh needed to offer terms that would attract the attention of major international oil companies in a highly competitive global exploration market.

However, the 2024 Round also highlighted several fundamental weaknesses in Bangladesh's offshore energy governance legal framework. The legal uncertainty about the status of PSCs concluded with a transitional government following the events of August 2024, which led to the extension of the round's deadline by fourteen months as reported in The Diplomat's analysis of March 2026, reflects the deeper structural problem of contractual instability in a country with a history of political discontinuity. Investors in deep-water exploration, who must commit hundreds of millions of dollars over a decade or more, require confidence that the government signing their contract will honour it through political transitions. The absence of a stable, de-

politicised institutional framework for the administration of PSCs, one that is insulated from the political cycle and provides contractual continuity regardless of changes in government, is a critical weakness in Bangladesh's offshore investment climate.

The fiscal terms of the 2024 Round have been the subject of debate among Bangladeshi energy economists and legal scholars. The cost recovery cap, the production sharing formula, and the tax treatment of contractor income represent a complex and interrelated package of fiscal terms whose overall effect on government take depends on variables including the size of discoveries, the rate of production, and the international price of gas. Critics of the standard PSC model argue that it is insufficiently protective of the state's interests in conditions of high oil prices and large discoveries, because the cost recovery provisions allow contractors to recover their capital investment rapidly before the state's share of production increases. Defenders of the model argue that in frontier exploration conditions with high geological risk, the terms need to be sufficiently attractive to justify the risk of failed exploration, and that the sliding scale production sharing formula provides adequate protection of the state's interests in conditions of commercial success.

CHAPTER 3: THE LEGAL FRAMEWORK FOR OFFSHORE RENEWABLE ENERGY

3.1 The Emerging Legal Architecture of Offshore Renewable Energy: International Dimensions

The development of offshore renewable energy, particularly offshore wind power but also tidal current energy, wave energy, and ocean thermal energy conversion (OTEC), represents one of the most significant new developments in the governance of maritime energy resources since UNCLOS was adopted. The offshore wind sector alone has grown from virtually nothing in the early 1990s to an installed capacity of approximately 75 GW globally by 2025, with major projects in the North Sea, the East China Sea, and increasingly in the Indian Ocean and South Asian waters. The legal framework for offshore renewable energy under UNCLOS, as discussed in Chapter 1 of this Part, is broadly adequate in that it provides a clear legal basis for the coastal state's authority over offshore renewable energy installations in the EEZ and territorial sea. However, the translation of this international legal authority into effective domestic legal frameworks has been an uneven process, with significant variations in the quality and comprehensiveness of national offshore renewable energy laws.

The scholarship on the international law of offshore wind energy has grown rapidly in recent years, and several important legal developments have contributed to the clarification of the international legal framework. The 2023 article in Ocean Development and International Law on the UNCLOS framework for offshore wind in Australia and New Zealand, which examined the application of UNCLOS Articles 56 and 60 to offshore wind regulation in two jurisdictions with very different domestic legal frameworks, established several important propositions that are relevant to Bangladesh's legal situation. First, UNCLOS Article 56(1)(b)'s reference to energy production from water, currents, and winds provides a specific legal basis for the coastal state's regulation of offshore wind, in addition to the general EIA and environmental protection obligations of Part XII. Second, the coastal state's right under Article 60 to authorise, regulate,

and remove offshore installations provides a comprehensive legal basis for the full regulatory lifecycle of offshore wind projects, from construction through operation to decommissioning. Third, the obligation under UNCLOS Article 58 to give due regard to the rights and freedoms of other states, including the freedom of navigation, requires that offshore wind development be conducted in a manner that does not unreasonably interfere with navigational safety.

The interface between offshore renewable energy development and the rights of third states in the EEZ raises specific legal questions that are still being resolved in the scholarship and in state practice. The safety zones established under Article 60 around offshore installations, which can extend up to 500 metres from the installation, create a form of de facto exclusion zone that may affect navigational routes used by foreign vessels. If multiple offshore wind installations are grouped in a large offshore wind farm, the cumulative effect of their individual safety zones can create a very substantial area of the EEZ in which navigation is effectively constrained. The question of whether a coastal state can establish safety zones for an entire wind farm, rather than only for individual installations, and whether the cumulative area of safety zones in a major offshore wind development can be assessed as unreasonably constraining navigation, has not yet been definitively resolved in international law.

The International Maritime Organization, through the Maritime Safety Committee, has been developing guidance on the safe integration of offshore wind farms with maritime traffic management, including recommendations on the designation of corridor routes through offshore wind farm areas and the requirements for lighting, marking, and Automatic Identification System (AIS) broadcasts from wind farm installations. This guidance, which reflects the IMO's coordinating role in the governance of the interface between offshore energy and maritime navigation, provides an important supplement to the UNCLOS framework and is directly relevant to Bangladesh's planning for offshore wind development.

The IRENA's Global Offshore Wind Outlook of 2024, which projected that offshore wind could provide up to 2,000 GW of installed capacity globally by 2050 in a net-zero scenario, identified South Asia, including the Bay of Bengal, as a region with significant untapped offshore wind potential, while noting that the development of this potential would require both significant investment in offshore wind infrastructure and the development of comprehensive domestic legal and regulatory frameworks. The Oxford Open Energy article of January 2026 on the strategic roadmap for offshore wind energy development in Bangladesh, authored by a team including researchers from Bangladeshi and international institutions, confirmed the assessment of Bangladesh's offshore wind potential and identified the absence of a dedicated offshore wind policy and institutional framework as the primary obstacle to development. The article specifically noted the need for cyclone-resilient turbine technologies, floating versus fixed foundation analysis for deeper waters, and the assessment of material durability in the humid marine environment of the Bay of Bengal as specific technical and legal challenges for Bangladesh's offshore wind sector.

3.2 Bangladesh's Offshore Renewable Energy Potential: Legal and Technical Assessment

Bangladesh's potential for offshore renewable energy development is significant, though it has been less extensively assessed than its hydrocarbon potential. The Bay of Bengal in the areas of

Bangladesh's EEZ exhibits a range of renewable energy resources, including wind, tidal current, wave, and ocean thermal energy, whose technical and economic exploitability depends on a combination of resource quality, water depth, distance from shore, grid connectivity, and the availability of appropriate technology.

Offshore wind is the most commercially advanced of these technologies and the one most relevant to Bangladesh's near-term energy planning. The Wind Resource Assessment studies conducted by the Bangladesh Power Development Board (BPDB) and by international consultants under various development assistance programmes have identified areas along Bangladesh's coast, particularly in the western coastal zone and in the waters adjacent to the Chittagong coast, with wind resources potentially suitable for fixed-bottom offshore wind development in shallow waters of less than sixty metres depth. The study published in Oxford Open Energy in January 2026 provides the most recent and comprehensive assessment of Bangladesh's offshore wind potential, covering resource availability, technological needs, policy gaps, and environmental and social implications across the period from 2015 to 2025.

The legal framework for offshore wind development in Bangladesh currently consists of a patchwork of provisions in the Territorial Waters and Maritime Zones Act, the Electricity Act, the Bangladesh Energy Regulatory Commission Act, the Environmental Conservation Act, and various administrative orders and policies, none of which was specifically designed for offshore wind and none of which provides a comprehensive or internally consistent regulatory framework. The Chambers and Partners Renewable Energy 2025 guide for Bangladesh confirmed that as of late 2025, there are no operational offshore renewable energy projects in Bangladesh, and that only one proposed wind power park has reached the planning stage, reflecting the gap between Bangladesh's offshore wind potential and its legal and institutional capacity to develop it.

The specific legal lacunae in Bangladesh's offshore wind governance framework can be identified with some precision. There is no designated maritime spatial planning framework that identifies areas suitable for offshore wind development, establishes criteria for the resolution of conflicts with other maritime uses (fishing, navigation, military activity), and provides a transparent process for the award of offshore wind development rights. There is no licensing regime specifically designed for offshore wind, establishing the conditions for exploration (resource assessment) and exploitation (power generation) licences, the duration and renewal conditions for such licences, the safety and environmental standards applicable to offshore wind installations, and the financial security requirements for decommissioning. There is no framework for the grid connection of offshore wind farms, including the designation of offshore grid connection points, the allocation of grid connection costs between developers and the grid operator, and the treatment of the subsea cable infrastructure that connects offshore farms to the onshore grid. And there is no mechanism for the support of offshore wind electricity, whether through feed-in tariffs, competitive auction systems, power purchase agreement frameworks, or other market support instruments, that would provide the revenue certainty that offshore wind investors require.

The development of a comprehensive Offshore Renewable Energy Act, which would address all of these legal lacunae and provide Bangladesh's offshore wind sector with the stable and

predictable legal framework it requires, is a central recommendation of this Part. Such an Act should be developed in close consultation with the international offshore wind industry, drawing on the experience of leading offshore wind legal frameworks including those of Denmark, the United Kingdom, the Netherlands, and Germany in Europe, and those of Japan, South Korea, and Taiwan in Asia.

3.3 Tidal, Wave, and Ocean Thermal Energy: Emerging Technologies and the Legal Framework

While offshore wind is the most commercially mature offshore renewable energy technology, Bangladesh's maritime zone also contains potential for the development of other forms of marine renewable energy that deserve attention in any comprehensive analysis of the legal framework for offshore energy governance. Tidal current energy, which captures the kinetic energy of tidal flows through underwater turbines, has significant potential in areas of strong tidal currents, and the coastal waters of Bangladesh, particularly in the tidal channels of the Sundarbans and the offshore waters of the southwestern coast, exhibit tidal current velocities that may be suitable for tidal energy development. Wave energy conversion technology, which captures the energy of ocean waves through various mechanical and hydraulic devices, has been under development in several countries and may have application in the more exposed offshore waters of the Bay of Bengal. Ocean thermal energy conversion (OTEC), which exploits the temperature difference between warm surface water and cold deep water to generate electricity, requires a significant vertical temperature gradient and is potentially applicable in the deeper waters of the Bay of Bengal to the south of Bangladesh's continental shelf.

These technologies are at much earlier stages of commercial development than offshore wind, and their exploitation in Bangladesh's maritime zones is not a near-term prospect. However, the legal framework for offshore energy governance should be designed to accommodate these technologies as they mature, rather than requiring legislative revision every time a new technology becomes commercially viable. The principle of technological neutrality in energy law, which holds that legal frameworks should be designed to accommodate a range of technologies without favouring any particular technology for non-economic reasons, is an important principle for the design of Bangladesh's offshore renewable energy legal framework.

The international legal framework for these emerging marine renewable energy technologies is also developing, with the International Renewable Energy Agency (IRENA) and the International Energy Agency (IEA) both conducting work on the legal and regulatory frameworks applicable to ocean energy technologies. The IRENA's Ocean Energy Technology Brief provides an overview of the relevant international legal framework and identifies the key legal questions that domestic legislators need to address, including the licensing of ocean energy devices, the establishment of testing zones, the integration of ocean energy with grid systems, and the environmental assessment of ocean energy installations.

3.4 Marine Spatial Planning as the Legal Foundation for Offshore Energy Governance

Marine spatial planning (MSP) is the systematic process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic,

and social objectives that are specified through a political process. It provides the spatial framework within which decisions about the location and extent of different maritime activities, including offshore energy development, fisheries, navigation, conservation, and military activities, are made and coordinated. Without a comprehensive MSP framework, offshore energy development in Bangladesh's maritime zone is likely to generate conflicts with other maritime uses, environmental harm from poorly sited installations, and social conflicts with fishing communities whose livelihoods depend on access to areas that may be designated for energy development.

The legal framework for MSP in Bangladesh is currently non-existent in any formal legislative sense. The MSPGLOBAL2030 programme, which includes Bangladesh among the countries engaged in the development of national MSP frameworks, identified the absence of a legal basis for MSP as the primary institutional barrier to effective maritime spatial governance in Bangladesh. This absence means that decisions about the spatial allocation of maritime activities are made on an ad hoc basis by different ministries and agencies, without a coordinating framework that ensures coherence and resolves conflicts.

The development of a Marine Spatial Planning Act, or the incorporation of comprehensive MSP provisions into an integrated maritime governance law, is a critical prerequisite for the development of Bangladesh's offshore renewable energy sector. Such legislation should establish the legal basis and institutional mechanism for the preparation, adoption, and periodic revision of a National Marine Spatial Plan; designate specific zones for different maritime uses, including offshore wind development zones, fisheries reserves, shipping lanes, military exercise areas, and marine protected areas; establish a public consultation process for the preparation and revision of the plan; and create a system of permits or licences for specific maritime activities that is consistent with the designations in the plan.

The UNESCO's Intergovernmental Oceanographic Commission (IOC) has developed comprehensive guidelines for marine spatial planning that provide a framework for the design of national MSP legislation, and these guidelines should inform the development of Bangladesh's MSP legal framework. Several BIMSTEC member states, including India (with its National Coastal Management Programme), Sri Lanka (with its Coast Conservation and Coastal Resource Management Act), and Thailand (with its Seacoast Development Policy) have developed coastal and marine spatial planning frameworks that provide relevant comparative experience for Bangladesh.

CHAPTER 4: THE ENVIRONMENTAL LAW DIMENSIONS OF OFFSHORE ENERGY GOVERNANCE

4.1 Environmental Impact Assessment in Offshore Energy: International Standards and Domestic Deficiencies

Environmental impact assessment (EIA) is the process by which the potential environmental effects of proposed activities are identified, evaluated, and taken into account in decision-

making. It is both an instrument of domestic environmental regulation and a requirement of international law, reflected in the UNCLOS obligation under Article 206 to assess the potential effects of planned activities on the marine environment when states have reasonable grounds for believing that such activities may cause substantial pollution or significant harmful changes to the marine environment.

The international standard for marine EIA, as elaborated in the BBNJ Agreement and in the practice of international tribunals and arbitral panels, requires that assessments be conducted before any significant marine activity is authorised; that they identify and evaluate all significant environmental effects, including direct and indirect effects, cumulative impacts, and transboundary effects; that they be conducted by competent and independent experts; that they be subject to public consultation, including consultation with potentially affected coastal communities and states; and that their findings be taken into account in the decision-making process, with a commitment to mitigate significant adverse effects to the extent technically and economically feasible.

Bangladesh's domestic EIA framework, governed primarily by the Environmental Conservation Act of 1995 and the Environmental Conservation Rules of 1997, requires EIA for a range of specified industrial and development activities, including petroleum exploration and production. However, the quality of EIA practice in Bangladesh has been widely criticised, both by domestic environmental organisations and by international observers, as inadequate to meet the demands of the UNCLOS Article 206 standard or the emerging international standard reflected in the BBNJ Agreement. Specific deficiencies identified in the scholarly literature include the inadequate scope of assessments, which often fail to consider cumulative impacts or transboundary effects; the insufficient independence of EIA consultants from project proponents; the inadequacy of public consultation processes, which do not effectively engage coastal fishing communities; the failure to consider alternative project designs or locations; and the inadequacy of post-approval monitoring to ensure compliance with EIA conditions.

The offshore energy context creates specific EIA challenges that Bangladesh's domestic framework is not well equipped to address. The assessment of the environmental effects of offshore drilling operations requires specialised expertise in marine ecology, oceanography, and petroleum engineering that is not widely available in Bangladesh. The assessment of cumulative impacts from multiple offshore exploration and production activities, which may individually have limited effects but collectively have significant impacts on the marine ecosystem, requires a level of spatial analysis and ecological modelling that the current EIA framework does not provide for. And the assessment of greenhouse gas emissions from offshore energy activities, required by the 2024 ITLOS Advisory Opinion's confirmation that such emissions constitute marine pollution, requires a technical methodology that has not yet been established in Bangladesh's EIA regulations.

The reform of EIA for offshore energy activities in Bangladesh requires both legislative reform and institutional capacity building. The legislative reform should establish specific EIA requirements for offshore energy activities that go beyond the current general EIA framework, incorporating the specific standards of UNCLOS Article 206 and the BBNJ Agreement. The institutional capacity building should develop the technical expertise within the Department of

Environment and within Petrobangla to conduct and evaluate rigorous marine EIAs for offshore energy projects.

4.2 The Deepwater Horizon Legacy: Legal Lessons for Bangladesh's Offshore Safety Regime

The Deepwater Horizon disaster of April 2010, in which the catastrophic blowout of BP's Macondo well in the Gulf of Mexico caused the largest accidental marine oil spill in history, killing eleven workers and releasing approximately 4.9 million barrels of oil into the ocean over eighty-seven days, fundamentally reshaped the international legal landscape for offshore petroleum safety regulation. The disaster revealed systematic failures in the regulatory framework for deepwater drilling, including the inadequacy of safety and environmental regulations for deepwater operations, the failure of government oversight, the conflicts of interest in the regulatory agency responsible for both promoting and regulating offshore development, and the inadequacy of oil spill response capacity for a blowout of the magnitude that occurred.

The legal aftermath of Deepwater Horizon produced several important developments in international offshore safety law. The United States enacted comprehensive reform of its offshore safety regulatory framework, including the splitting of the Minerals Management Service (which had combined promotional and regulatory functions in a manner analogous to the dual-function problem of Petrobangla) into separate regulatory and revenue management agencies, the establishment of rigorous new well control and blowout preventer requirements, the mandatory certification of third-party offshore safety professionals, and the strengthening of financial liability provisions for offshore operators. The European Union adopted the Offshore Safety Directive of 2013, which established a comprehensive framework for the prevention of major accidents in offshore oil and gas operations and the limitation of their consequences, applicable to all EU member states with offshore petroleum activities and providing a model for offshore safety regulation that has been widely adopted in other jurisdictions.

For Bangladesh, the legal lessons of Deepwater Horizon are directly applicable, even though Bangladesh's offshore petroleum activities have to date been confined to relatively shallow waters with lower technical risk than the deepwater Gulf of Mexico operations. The fundamental governance principles illustrated by the Deepwater Horizon disaster, including the importance of institutional independence between petroleum promotion and safety regulation, the necessity of rigorous well control standards enforced by independent inspection, the inadequacy of ad hoc emergency response and the need for pre-planned and resourced oil spill response, and the importance of clear liability rules and adequate financial security requirements, are principles that should inform the design of Bangladesh's offshore petroleum safety regulatory framework regardless of the specific depth and technical characteristics of current operations.

Bangladesh currently has no legislation specifically addressing the safety of offshore petroleum operations. The Petroleum Act of 1934 contains some general safety provisions, and the Environmental Conservation Act imposes some general environmental obligations, but there is no instrument equivalent to the EU Offshore Safety Directive or the US Safety and Environmental Management System requirements. The development of an Offshore Petroleum Safety and Environmental Protection Act, modelled on best international practice and taking

account of the specific technical conditions in the Bay of Bengal, including the prevalence of cyclones, the unusual meteorological and oceanographic characteristics of the Bay, and the proximity of sensitive ecosystems including the Sundarbans, should be an early priority in Bangladesh's offshore energy law reform agenda.

4.3 Oil Spill Response: The Legal Framework and Bangladesh's Preparedness Gap

The legal framework for oil spill response in Bangladesh is provided by a combination of international conventions and domestic administrative arrangements, none of which constitutes a comprehensive statutory oil spill response system. Bangladesh is a party to the International Convention on Oil Pollution Preparedness, Response, and Co-operation (OPRC) of 1990, which requires states parties to establish national systems for responding promptly and effectively to oil pollution incidents, including a national contingency plan for oil pollution preparedness and response, and arrangements for receiving information about oil pollution incidents from ships and from offshore units. The OPRC Convention creates obligations of international cooperation in oil spill response, including the sharing of information, technology, and resources in the event of a major spill that exceeds the individual state's response capacity.

Bangladesh has not fully implemented its OPRC obligations. A National Oil Spill Contingency Plan exists in draft form, but it has not been formally adopted as a statutory instrument and its provisions are not consistently enforced. The Department of Shipping, the Bangladesh Coast Guard, and the Chittagong Port Authority all have some role in oil spill response, but there is no single agency with clear overall responsibility and no unified command structure for managing a major spill incident. The equipment and personnel resources available for oil spill response in Bangladesh are inadequate for a large-scale offshore spill, and there is no systematic programme of oil spill response training and exercises equivalent to those required by the OPRC Guidelines.

The development of a comprehensive oil spill response legal framework, including a statutory National Oil Spill Contingency Plan with legal force, clear designation of roles and responsibilities among response agencies, minimum equipment and personnel standards for port operators and offshore operators, mandatory oil spill response exercises, and arrangements for rapid international assistance in the event of a major spill, is an urgent legal and operational priority for Bangladesh's maritime governance. The risk of a major offshore oil spill in Bangladesh's waters, whether from offshore drilling operations or from a tanker accident in the busy shipping lanes of the Bay of Bengal, is a real and present danger that demands a serious and systematic legal response.

4.4 The Climate Obligations of Offshore Energy Governance: Bangladesh's Dual Position

Bangladesh's position in the international climate governance framework is unique and philosophically complex. On the one hand, Bangladesh is one of the world's most vulnerable countries to the effects of climate change, experiencing the full range of climate-related harms to its marine environment including sea-level rise, increased cyclone intensity, coral bleaching, ocean acidification, and disruption of fisheries. As a founding member of the Climate Vulnerable Forum, Bangladesh has been among the most vocal advocates for ambitious global climate

action, arguing that the survival of its coastal communities and its territorial integrity depend on the world's major emitters drastically reducing their greenhouse gas emissions.

On the other hand, Bangladesh is a developing country with enormous unmet energy needs, where hundreds of millions of people lack reliable access to electricity, where economic development depends on affordable and reliable energy supply, and where the offshore hydrocarbon resources of the Bay of Bengal represent a potential source of energy supply that could, in principle, reduce Bangladesh's dependence on expensive imported energy and fund the economic development that would give its people the resources to adapt to the effects of climate change. The development of offshore hydrocarbon resources is therefore not, for Bangladesh, a simple choice between economic development and environmental protection, but a deeply complex decision that involves weighing near-term development benefits against long-term climate risks, distributional questions about who bears the costs of foregone development, and philosophical questions about the fair allocation of global carbon budget constraints.

The jurisprudential framework for resolving this tension draws on several theoretical traditions. The common but differentiated responsibilities principle, which is one of the foundational principles of international climate law as reflected in the UNFCCC and the Paris Agreement, holds that while all states have a common responsibility for addressing climate change, the burden of action must be differentiated according to each state's historical contribution to the problem, its current technical and financial capacity to take action, and its specific vulnerabilities and development needs. On this principle, Bangladesh, which has contributed negligibly to global greenhouse gas emissions, has significantly lower obligations regarding offshore hydrocarbon development restraint than major historical emitters.

Henry Shue's influential philosophical analysis of climate justice, in his Basic Rights of 1980 and in subsequent work on climate change and the subsistence emissions dilemma, provides a powerful philosophical framework for understanding Bangladesh's position. Shue argues that the emissions associated with the satisfaction of basic human needs, including the energy needed for cooking, lighting, and productive activity, have a higher moral priority than the luxury emissions of affluent societies, and that the global carbon budget should be allocated in a way that prioritises the energy needs of the poor. Applied to Bangladesh's offshore energy governance, Shue's framework supports the proposition that Bangladesh's development of its offshore hydrocarbon resources for domestic energy supply is morally justified in the current global climate governance framework, provided that such development is conducted with the best available technology for emission reduction and is accompanied by Bangladesh's good-faith efforts to develop offshore renewable energy as a long-term substitute.

The practical implications of this philosophical analysis for the design of Bangladesh's offshore energy legal framework include the incorporation of greenhouse gas performance standards into offshore petroleum licensing conditions, the requirement for operators to implement best available technology for flare reduction and fugitive emission control, the establishment of a Carbon Revenue Fund to direct a portion of offshore petroleum revenues toward renewable energy development and climate adaptation, and the development of a clear pathway in Bangladesh's national energy strategy for the transition from offshore fossil fuels to offshore renewables as the renewable energy sector matures.

CHAPTER 5: INTERNATIONAL INVESTMENT LAW AND OFFSHORE ENERGY IN BANGLADESH

5.1 The Architecture of International Investment Protection in the Energy Sector

International investment law, as it applies to offshore energy activities in Bangladesh, creates a complex system of rights and obligations that sits alongside, and sometimes in tension with, the framework of UNCLOS and domestic petroleum law. Bangladesh has entered into a significant number of bilateral investment treaties (BITs) with countries whose investors may be involved in Bangladesh's offshore energy sector, including treaties with the United Kingdom, the United States, Germany, France, Japan, China, South Korea, the Netherlands, and several other major capital-exporting countries. These BITs typically provide international investment protection to investors from the treaty partner country, including protection against expropriation without prompt, adequate, and effective compensation, the obligation to provide fair and equitable treatment, the prohibition of performance requirements, and the right to free transfer of funds.

The most significant provision of BITs for offshore energy governance is the prohibition of expropriation without compensation, which in the energy context applies not only to the direct taking of physical assets but also to indirect expropriation, defined as regulatory measures that have the effect of substantially depriving an investor of the value of its investment without formal transfer of title. The application of the indirect expropriation concept to regulatory changes in the offshore energy sector has been the subject of extensive international investment arbitration, with tribunals reaching varying conclusions about when environmental, fiscal, or contractual regulatory changes constitute compensable indirect expropriation. The broad application of this concept by some investment arbitration tribunals has created a significant chilling effect on the ability of developing host states to reform their offshore energy regulatory frameworks, since any reform that reduces the value of existing investor rights may be characterised as indirect expropriation requiring compensation.

The fair and equitable treatment standard, which is the most frequently invoked provision of investment protection treaties in energy sector arbitrations, requires the host state to provide investors with a stable and predictable legal and regulatory environment, to treat investors without arbitrary or discriminatory conduct, and to meet their legitimate expectations as to the conditions under which the investment was made. The application of the legitimate expectations element of FET to offshore energy contracts has been particularly controversial, since it can be argued that investors had a legitimate expectation that the legal and regulatory framework in place at the time of the investment would not be significantly altered, an argument that could potentially preclude the host state from implementing new environmental regulations or fiscal reforms without triggering liability.

The Energy Charter Treaty (ECT), while not ratified by Bangladesh, is relevant to Bangladesh's offshore energy investment environment because a significant number of potential investors in Bangladesh's offshore sector are from countries that are parties to the ECT. The ECT provides investment protection provisions similar to those in Bangladesh's BITs, and its most-favoured-

nation clause could potentially be invoked by ECT member state investors to access the more favourable provisions of Bangladesh's BITs. The ECT has been the source of numerous high-profile arbitrations involving offshore energy investments, and the jurisprudence of ECT tribunals provides an important reference point for understanding the investment protection constraints that Bangladesh's offshore energy governance faces.

5.2 The Bangladesh-United Kingdom BIT and Its Implications for Offshore Energy Investment

The bilateral investment treaty between Bangladesh and the United Kingdom, which has been in force since 1982, is among the most significant of Bangladesh's investment protection agreements for the offshore energy sector, given the major role of UK-based energy companies and financial institutions in the global offshore energy industry. The treaty provides the standard protections of expropriation compensation, fair and equitable treatment, and free transfer of funds, and it includes an investor-state dispute settlement provision allowing UK investors to bring claims against Bangladesh before international arbitration, including under the ICSID (International Centre for the Settlement of Investment Disputes) system.

The interaction between the UK BIT and Bangladesh's UNCLOS obligations creates a specific legal complexity for the design of Bangladesh's offshore energy governance framework. If Bangladesh, in compliance with the obligations confirmed by the 2024 ITLOS Advisory Opinion, were to impose new environmental regulations on offshore petroleum operations that reduced the profitability of UK-investor-held PSCs, those regulations could potentially be challenged as indirect expropriation or as violations of the fair and equitable treatment standard under the BIT. This creates a theoretical conflict between Bangladesh's international environmental law obligations under UNCLOS and its international investment law obligations under the UK BIT.

The resolution of this conflict in international law is not fully settled, and it is the subject of active scholarly debate. The dominant scholarly view, reflected in the work of Francioni, Dupuy, and other international law scholars, is that international law should be interpreted as a coherent system, and that investment protection obligations should be read as subject to the host state's right to regulate in the public interest, including for environmental protection purposes. This regulatory space for environmental measures is also recognised in the practice of investment arbitral tribunals, which have generally distinguished between compensable expropriation and non-compensable regulation where the measure is bona fide, non-discriminatory, and proportionate to its public interest objective. The challenge for Bangladesh is to design its offshore energy environmental regulations in a way that demonstrably meets these criteria and thus remains outside the scope of compensable expropriation.

The renegotiation or modernisation of Bangladesh's BITs, to incorporate explicit carve-outs for environmental regulatory measures consistent with Bangladesh's UNCLOS and Paris Agreement obligations, is a long-term policy objective that Bangladesh should pursue in its investment treaty negotiations. Several countries, including South Africa, India, and Brazil, have fundamentally renegotiated or replaced their BITs in recent years with models that provide stronger protections for the host state's right to regulate in the public interest, and Bangladesh

should engage in a systematic review of its investment treaty portfolio with a view to modernising those treaties that contain provisions that unduly constrain its regulatory flexibility.

5.3 The ICSID Arbitration Framework and Offshore Energy Disputes

The International Centre for the Settlement of Investment Disputes, established under the 1965 Washington Convention, provides the most widely used institutional framework for the arbitration of investor-state disputes in the energy sector. Bangladesh is a party to the ICSID Convention, which means that investors from other ICSID member states can invoke ICSID arbitration for disputes with Bangladesh under the relevant BIT or investment contract. Bangladesh has faced ICSID arbitration claims from investors in the power and energy sector on previous occasions, and the risk of ICSID claims from offshore energy investors is a real constraint on Bangladesh's policy flexibility.

The design of offshore energy contracts and licensing terms should anticipate the risk of investment arbitration and should incorporate provisions that minimise that risk while protecting the state's legitimate interests. Specific measures that can reduce investment arbitration risk include the inclusion of clear definitions of the circumstances in which regulatory changes are permitted without triggering compensation obligations; the incorporation of environmental and social performance standards in the initial licence conditions rather than imposing them retroactively; the use of renegotiation provisions that allow contract terms to be updated in light of changed circumstances without triggering default; and the creation of domestic dispute resolution mechanisms that provide efficient and impartial resolution of contractor-state disputes before they escalate to international arbitration.

The experience of other developing states with ICSID arbitration in the offshore energy sector, including Ecuador's multiple ICSID cases following its renegotiation of oil contracts, Nigeria's experience with disputes over oil block revocations, and Tanzania's experience with gas contract disputes, provides important lessons for Bangladesh's management of offshore energy investor relations. The common theme of these experiences is that the best protection against investment arbitration is not the avoidance of regulation but the transparent, consistent, and good-faith application of a clear and publicly disclosed regulatory framework from the outset of the investment relationship.

5.4 The Emerging Framework of Responsible Investment in Offshore Energy

The concept of responsible investment, as applied to offshore energy, encompasses a range of principles and standards that aim to ensure that investment in offshore energy activities is conducted in a manner that respects human rights, protects the environment, and contributes to sustainable development rather than perpetuating the resource curse. The UN Guiding Principles on Business and Human Rights, adopted by the UN Human Rights Council in 2011, establish a framework under which both states and businesses have responsibilities regarding human rights impacts of investment activities. The OECD Guidelines for Multinational Enterprises, revised in 2023 with new provisions on responsible business conduct in the climate change context, provide a comprehensive set of voluntary standards for the responsible conduct of international business, including in extractive industries.

The application of these responsible investment standards to offshore energy activities in Bangladesh requires that PSC terms include human rights due diligence requirements for operators and their contractors, that offshore energy development projects be subject to social impact assessment alongside environmental impact assessment, that affected fishing communities and coastal populations be provided with meaningful consultation and participation rights in the decision-making processes that affect their livelihoods, and that benefit-sharing mechanisms be designed to ensure that the communities most directly affected by offshore energy activities, including those whose access to fisheries may be restricted by safety zones, receive a fair share of the revenues generated.

CHAPTER 6: COMPARATIVE PERSPECTIVES ON OFFSHORE ENERGY GOVERNANCE

6.1 Norway's Experience: The Model of Integrated Resource Governance

Norway is universally recognised as the world's most successful example of the transformation of offshore petroleum resources into sustainable long-term national wealth. The Norwegian model has several distinctive features that have made it the reference point for policymakers and scholars worldwide, and its lessons are directly applicable to Bangladesh's offshore energy governance, though with appropriate adaptations for Bangladesh's very different institutional, financial, and developmental context.

The Norwegian Petroleum Act of 1996, which consolidated and systematised the legal framework developed since the discovery of the Ekofisk field in 1969, provides the statutory basis for the award of exploration and production licences to both state and private operators, the regulation of petroleum operations for safety and environmental purposes, the management of state participation in petroleum development through the state-owned company Equinor (formerly Statoil), and the fiscal framework for petroleum taxation. The Norwegian petroleum fiscal system, which combines a standard corporate income tax rate with a special resource rent tax (bringing the total marginal tax rate on petroleum income to approximately seventy-eight percent in the development phase), with a full deduction of investment costs against both taxes, is designed to extract the full resource rent from petroleum production for the Norwegian state while maintaining incentives for efficient exploration and development.

The most distinctive feature of the Norwegian model is the Government Pension Fund Global (GPFG), the world's largest sovereign wealth fund, which was established to save and invest the government's petroleum revenues for the benefit of future generations. The fund, governed by the Norges Bank Investment Management under detailed statutory rules, invests only in foreign financial assets, ensuring that the petroleum revenue inflow does not cause domestic economic overheating (the Dutch disease problem), and it is subject to transparent reporting and parliamentary oversight. The fiscal rule that limits annual withdrawals from the fund to no more than the expected real return on the fund's investments, approximately three percent per year, provides a structural commitment to intergenerational equity in the management of petroleum revenues.

For Bangladesh, the Norwegian model suggests several specific elements of offshore energy governance reform. First, the institutional separation of the petroleum regulatory function from the commercial function, which Norway achieved through the split between the Norwegian Petroleum Directorate and Equinor, should be replicated in Bangladesh through the establishment of an independent Petroleum Regulatory Authority distinct from Petrobangla. Second, the Norwegian fiscal system's combination of a high resource rent tax with full investment cost deductibility could be adapted for Bangladesh's context, providing adequate government take from successful projects while maintaining exploration incentives in conditions of high geological risk. Third, the establishment of a Petroleum Revenue Fund for Bangladesh, inspired by the Norwegian model but designed to meet Bangladesh's specific development needs, including investment in climate adaptation, renewable energy infrastructure, and social development, would provide a mechanism for translating offshore petroleum revenues into long-term national wealth rather than short-term consumption.

6.2 Indonesia's PSC System: Lessons and Limitations

Indonesia was the pioneering developer of the Production Sharing Contract model, and its four-decade experience with PSC-based offshore petroleum governance provides an extensive body of institutional knowledge that is directly relevant to Bangladesh. Pertamina, the Indonesian state oil company, developed the first PSC with IIAPCO in 1966, establishing the conceptual framework of contractor cost recovery and profit sharing that has since been adopted in various modified forms in dozens of petroleum-producing countries. The Indonesian PSC model has gone through several major revisions, reflecting changing market conditions, geological risk profiles, and the government's evolving assessment of the balance between investor attraction and resource rent capture.

The Indonesian experience with the dual-function problem of state oil companies is instructive. For many years, Pertamina combined the functions of commercial petroleum operator, PSC administrator, and partial petroleum regulator, a combination that produced well-documented governance failures including corruption, financial mismanagement, and regulatory capture. The reform of Indonesian petroleum governance in the early 2000s, which established the BPMigas (later SKKMigas) as a separate entity responsible for the management and supervision of upstream petroleum activities, while Pertamina retained its commercial petroleum operations, was a significant institutional improvement that is directly relevant to Bangladesh's reform agenda.

The Indonesian experience also provides cautionary lessons about the management of natural gas discoveries in the context of domestic energy pricing. Indonesia, which was once a major LNG exporter, has experienced a significant decline in its LNG export capacity as domestic gas demand has grown and as below-market domestic gas pricing has reduced the commercial attractiveness of new gas development. This situation provides a precise parallel to Bangladesh's own gas governance challenges and underlines the importance of reforming domestic gas pricing and improving the commercial framework for gas development as a prerequisite for attracting the investment needed to develop offshore gas resources.

6.3 Mozambique's Experience: The Resource Curse and Legal Governance

Mozambique's experience with major offshore natural gas discoveries in the Rovuma Basin, which began in 2010 and which revealed one of the world's largest natural gas accumulations in the Mamba and Coral fields, provides a cautionary tale about the challenges of translating offshore hydrocarbon wealth into sustainable development outcomes in a low-income developing country. The scale of the Rovuma discoveries, with potential reserves exceeding 100 trillion cubic feet of natural gas, created enormous expectations of economic transformation, but the realisation of these expectations has been severely delayed and compromised by a combination of governance failures, contract disputes, financial mismanagement, debt accumulation, and geopolitical instability.

The legal governance failures in Mozambique's offshore energy sector that are most relevant to Bangladesh include the lack of transparency in the negotiation and terms of PSCs, which allowed major international energy companies to negotiate unusually favourable terms in what were essentially confidential bilateral negotiations without adequate public scrutiny; the inadequate legislative framework for the domestic content requirements of offshore energy development, which meant that the Mozambican economy did not capture the local employment and supply chain benefits that would have been possible with appropriate legal requirements; the failure to establish adequate social and environmental safeguards for the communities displaced by LNG development infrastructure; and the accumulation of government-backed debt obligations through opaque off-balance-sheet mechanisms that ultimately triggered a fiscal crisis.

Bangladesh can and should learn from Mozambique's experience. The reform of Bangladesh's offshore energy governance should specifically address transparency in PSC negotiation and publication, the establishment of a comprehensive domestic content policy requiring offshore operators to use Bangladeshi goods and services to the maximum technically feasible extent, the development of adequate social and environmental safeguards for offshore energy development that protect the rights of affected communities, and the establishment of a transparent fiscal framework for the management of offshore petroleum revenues that prevents the accumulation of contingent liabilities.

6.4 The Indian Experience: NELP, OALP, and the Regulatory Evolution

India's experience with offshore petroleum governance is the most directly relevant comparative reference for Bangladesh, given the adjacent geography, the shared geological province of the Bay of Bengal, and the comparable institutional and developmental context. India's petroleum governance has evolved through several major phases, from the nationalised petroleum system of the 1970s and 1980s, through the New Exploration Licensing Policy (NELP) era from 1997, to the current Open Acreage Licensing Policy (OALP) introduced in 2016.

The NELP, which was in place from 1997 to 2016, established a competitive bidding system for petroleum exploration licences under Production Sharing Contracts, attracted significant foreign investment to India's offshore sector including the major KG-D6 discovery by Reliance Industries in the Krishna-Godavari Basin, and produced significant early success in increasing India's domestic petroleum production. The KG-D6 experience also produced significant governance controversy, however, as disputes arose between the government and Reliance over the interpretation of cost recovery provisions, the attribution of production decline to operational

failures versus natural depletion, and the pricing of gas from the field, ultimately leading to major investment arbitration proceedings. The KG-D6 disputes provide directly relevant precedent for the design of Bangladesh's PSC terms and regulatory framework, illustrating the specific provisions that are most likely to give rise to disputes and the importance of clear and unambiguous contract drafting.

The OALP, which replaced NELP in 2016, introduced a more flexible approach to offshore petroleum licensing, allowing companies to select their own exploration blocks rather than restricting bidding to blocks pre-designated by the government. The OALP system, combined with the National Data Repository of seismic and geological data established by the Directorate General of Hydrocarbons, has been designed to make India's offshore petroleum exploration more attractive to investors while maintaining the government's control over the terms of exploration and production. India's experience with the OALP system provides a potential model for the design of Bangladesh's future offshore bidding framework, particularly the concept of a national data repository as an instrument for making exploration data available to potential investors without requiring them to fund their own seismic surveys from scratch.

CHAPTER 7: ENERGY TRANSITION, DECARBONISATION, AND THE FUTURE OF OFFSHORE ENERGY IN BANGLADESH'S MARITIME ZONE

7.1 The Paris Agreement, NDCs, and Bangladesh's Offshore Energy Future

Bangladesh's Nationally Determined Contribution (NDC) to the Paris Agreement, submitted in updated form in 2021, commits Bangladesh to reducing greenhouse gas emissions by fifteen percent unconditionally and by twenty-seven percent conditionally below the business-as-usual scenario by 2030, and it includes specific targets for increasing the share of renewable energy in Bangladesh's electricity mix. The NDC does not specifically address offshore energy development, reflecting the relatively early stage of thinking about offshore energy in Bangladesh's national climate planning at the time of the NDC's preparation, but the overall direction of climate policy it establishes has clear implications for the trajectory of offshore energy development.

The tension between the NDC's renewable energy targets and the government's pursuit of offshore hydrocarbon development is a real policy tension that requires explicit resolution in Bangladesh's energy and legal policy framework. One approach, advocated by environmental groups and by some climate economists, is to adopt a principle of no new fossil fuel development in public waters, on the grounds that any new hydrocarbon development will extend the country's dependence on fossil fuels beyond the date by which the net-zero transition requires it to have been completed. Another approach, supported by development economists and by the government's energy planning apparatus, is to acknowledge that Bangladesh's development needs, its limited historical contribution to global emissions, and the potential for gas to serve as a transitional fuel while renewable energy infrastructure is developed justify the continued development of offshore gas resources under a managed transition framework.

The legal framework for resolving this tension should be anchored in the principle that offshore energy development must be consistent with Bangladesh's climate commitments, that the legal instruments governing offshore petroleum licensing should incorporate specific requirements for greenhouse gas performance, and that a clear timeline for the transition to offshore renewable energy should be articulated in the national energy strategy and given legal force through the maritime energy governance framework. The Petroleum Revenue Fund proposed in Chapter 6 of this Part, which would direct a portion of offshore petroleum revenues toward renewable energy and climate adaptation, provides one mechanism for ensuring that the development of offshore fossil fuel resources contributes to, rather than retarding, the renewable energy transition.

The emerging concept of the managed decline of fossil fuel production, which has been developed in the academic literature by scholars including Muttitt and Kartha in the context of international climate equity, and which has been tentatively endorsed by the International Energy Agency in its Net Zero by 2050 roadmap, provides a framework for thinking about the governance of Bangladesh's offshore petroleum resources in the context of the global energy transition. On this framework, the development of offshore petroleum resources in a country like Bangladesh is justified in the transition period, but it must be governed by a clear and time-bound commitment to transitioning to renewable energy, with the fiscal revenues from petroleum development invested in building the renewable energy infrastructure that will ultimately displace it.

7.2 The Green Ammonia and Hydrogen Economy: Bangladesh's Maritime Energy Future

The global transition to net-zero energy systems is creating new opportunities for countries with good renewable energy resources and access to the sea, including Bangladesh, to develop new maritime energy industries based on green hydrogen and its derivatives, particularly green ammonia. Green hydrogen, produced by the electrolysis of water using renewable electricity, and green ammonia, produced from green hydrogen and nitrogen using the Haber-Bosch process, are the leading candidates for zero-emission maritime fuels that can decarbonise the shipping sector, which as discussed in Part Twelve of this commentary is one of the hardest sectors to decarbonise through direct electrification.

Bangladesh's potential for green ammonia production is based on two factors: its significant potential for offshore renewable electricity generation, particularly offshore wind, which would provide the green electricity needed for electrolysis; and its access to the Bay of Bengal as a maritime gateway for exporting green ammonia to international shipping markets in the region. If Bangladesh were to develop a significant offshore wind sector, the electricity generated could be used both to supply the domestic grid and to produce green hydrogen and ammonia for export to the maritime sector. The combination of offshore wind development with green ammonia production and maritime export could create a new offshore energy industry of considerable economic significance.

The legal framework for this green ammonia maritime economy would need to address several specific issues. The licensing of offshore wind farms that are specifically designed to supply electrolysis plants for hydrogen production, rather than to feed electricity to the onshore grid, raises specific legal questions about the licensing regime applicable to energy production for

non-grid uses. The construction and operation of offshore or near-shore electrolysis and ammonia synthesis facilities raises questions about the applicable safety and environmental regulations. The export of green ammonia as a marine fuel raises questions about customs treatment, port state regulations, and the safety standards applicable to ammonia as a maritime fuel. The development of this sector would require a comprehensive legal framework that spans the offshore renewable energy regulatory regime, the energy sector regulatory framework, the chemical safety regulatory framework, and the maritime law framework in a coherent and integrated manner.

7.3 Blue Carbon and Offshore Energy: The Legal Interface

The concept of blue carbon, referring to the carbon stored in coastal and marine ecosystems including mangroves, seagrasses, and salt marshes, has emerged as an important element of climate change mitigation policy, and it has significant legal implications for Bangladesh's offshore energy governance. Bangladesh's Sundarbans mangrove forest, the world's largest mangrove ecosystem, stores enormous quantities of carbon in its biomass and sediments, and the protection of this ecosystem is both an ecological and a climate imperative. The legal framework for the protection of blue carbon ecosystems in Bangladesh must be considered in the design of offshore energy governance, since offshore energy activities have the potential to damage blue carbon ecosystems through oil spills, physical disturbance, and the alteration of water quality and sediment dynamics.

The emerging international framework for blue carbon, including the work of the Intergovernmental Panel on Climate Change (IPCC) in recognising coastal ecosystem carbon in national greenhouse gas inventories, the inclusion of blue carbon in several countries' NDCs under the Paris Agreement, and the development of voluntary carbon markets for blue carbon credits, creates both obligations and opportunities for Bangladesh. The obligation is to ensure that offshore energy governance does not damage blue carbon ecosystems whose preservation is essential to Bangladesh's climate commitments. The opportunity is to develop blue carbon projects in the Sundarbans and other coastal ecosystems that can generate carbon credits for sale in international markets, providing a revenue stream that could offset some of the costs of offshore energy governance reform.

The legal framework for blue carbon in Bangladesh is currently non-existent in any specific sense. The Environmental Conservation Act and the Forest Act provide general protection for coastal forests and wetlands, and the Sundarbans' designation as a UNESCO World Heritage Site and a Ramsar wetland provides some international legal protection, but there is no domestic legislation specifically addressing blue carbon as a climate mitigation resource or establishing a legal basis for blue carbon credit generation and trading. The development of such legislation, as part of the broader legal framework for offshore energy governance, would be a significant contribution to Bangladesh's climate governance capacity.

CHAPTER 8: THE FISCAL FRAMEWORK FOR OFFSHORE ENERGY REVENUES

8.1 Petroleum Taxation and the Management of Resource Rent

The fiscal framework for offshore petroleum activities encompasses the full range of financial obligations imposed by the state on petroleum operators and contractors, including royalties, production sharing, corporate income tax, surface fees, training and technology transfer levies, and the participation rights of the state oil company. The design of this fiscal framework is among the most technically complex and politically sensitive aspects of offshore energy governance, because it determines the allocation of economic rent from petroleum production between the investor, the state, and (through the state's expenditure decisions) the broader population.

The concept of economic rent in natural resource extraction refers to the surplus value over and above the minimum return required to attract investment in exploration and production activities. This rent exists because natural resources are not producible at a constant cost; the most accessible and highest-quality resources generate significantly higher returns than less accessible or lower-quality resources, and the rent reflects this differential advantage. The objective of petroleum fiscal policy is to capture for the state the maximum share of resource rent consistent with maintaining adequate investment incentives, a balance that is technically difficult to achieve because the rent is not known in advance, varying with discovery size, production rates, and commodity prices, and because the assessment of adequate incentives depends on complex comparisons with alternative investment opportunities globally.

Bangladesh's current PSC fiscal system, while representing an improvement on the terms of earlier contracts, is not optimal from either an economic or a distributive justice perspective. The cost recovery cap of seventy-five percent, while in line with international practice in frontier exploration conditions, is relatively generous to investors in the event of large discoveries, because it allows rapid cost recovery that limits the state's profit oil share in the early years of production. The production sharing formula, while incorporating a sliding scale linked to production volumes, does not include a resource rent tax or internal rate of return trigger that would ensure the state captures an increased share of profits in the event of unusually high returns. The interaction between cost recovery, profit sharing, and corporate income tax creates a fiscal burden that may be perceived by investors as higher than the headline terms suggest, because of the risk of double-counting of certain costs and the timing differences between cost recovery under the PSC and cost deduction under the income tax.

A reformed fiscal framework for Bangladesh's offshore petroleum should incorporate several improvements. First, the cost recovery cap should be maintained at a level that ensures investors can recover their genuine exploration and development costs within a reasonable period, but should not be so generous as to delay the state's receipt of profit oil from successful projects. Second, the profit sharing formula should incorporate a resource rent element, whether through an explicit resource rent tax or through an income rate of return trigger in the profit sharing formula, that ensures the state captures an increased share of profits from highly profitable projects. Third, the relationship between PSC fiscal terms and income tax should be clarified to eliminate the risk of double taxation and to ensure that the effective tax rate is transparent and predictable for investors. Fourth, the fiscal framework should include provisions for the payment

of a share of petroleum revenues into the Petroleum Revenue Fund proposed in Chapter 6, establishing the institutional mechanism for the long-term management of petroleum wealth.

8.2 Sovereign Wealth Fund Architecture: The Petroleum Revenue Fund Proposal

The establishment of a Petroleum Revenue Fund for Bangladesh would require comprehensive legislation addressing the fund's establishment, ownership, governance, investment mandate, fiscal rules for contributions and withdrawals, and accountability to parliament and the public. The design of this legislation should draw on the extensive experience of existing sovereign wealth funds, including the Norwegian Government Pension Fund Global, the Kuwait Investment Authority, the Abu Dhabi Investment Authority, the Botswana Pula Fund, and the Timor-Leste Petroleum Fund, as well as the international best practice standards developed by the International Working Group of Sovereign Wealth Funds in the Santiago Principles of 2008.

The fundamental design choices for a Bangladeshi Petroleum Revenue Fund include the following. The ownership structure of the fund should vest its assets in the government of Bangladesh as trustee on behalf of the people of Bangladesh, with explicit recognition of the fund as a public asset that cannot be used to settle private obligations or to benefit individual officials or their associates. The governance structure should include a Fund Board with a majority of independent members, an investment committee with professional investment expertise, and a technical secretariat, all subject to detailed statutory rules on conflicts of interest, transparency, and accountability. The investment mandate should specify the types of assets in which the fund may invest, the permitted geographic and sectoral diversification, the risk tolerance parameters, and the prohibition of investments that create conflicts with Bangladesh's international obligations, including investments in fossil fuel companies given Bangladesh's climate commitments.

The fiscal rules should specify the conditions under which contributions are made to the fund and withdrawals are made from it, with a default rule that offshore petroleum revenues above a specified threshold are automatically transferred to the fund, and withdrawals are permitted only for specified purposes (such as climate adaptation investments or renewable energy infrastructure) and subject to parliamentary approval for amounts above a specified limit. The transparency requirements should include annual audited accounts, quarterly investment reports, public disclosure of the fund's investment portfolio, and the presentation of an annual report to parliament by the Fund Board.

8.3 Domestic Content Requirements: Law, Policy, and Implementation

The concept of domestic content, in the offshore energy context, refers to the requirement that petroleum operators use locally produced goods and locally available services to the maximum extent feasible in their exploration and production operations. Domestic content requirements are used by petroleum-producing states as a mechanism for ensuring that offshore energy development generates local economic benefits beyond the fiscal revenues received by the state, including employment of local workers, development of local supplier industries, technology transfer to local companies, and the creation of local expertise and human capital.

Bangladesh's current legal framework does not include comprehensive domestic content requirements for offshore petroleum operations. The standard PSC model includes a general obligation on contractors to prefer Bangladeshi goods and services when internationally competitive, but this is a soft obligation that does not specify minimum percentages, does not distinguish between different categories of goods and services with different potential for local supply, and does not provide mechanisms for monitoring and enforcement. The lack of specific and enforceable domestic content requirements is a significant gap in Bangladesh's offshore energy governance, since it means that the potential economic multiplier effects of offshore energy investment may not materialise to the extent that would be possible with appropriate legal requirements.

A comprehensive domestic content policy and legal framework for Bangladesh's offshore petroleum sector should be developed through a systematic assessment of the goods and services required for offshore exploration and production operations, the current and potential future capacity of Bangladeshi companies to supply these goods and services at internationally competitive quality and price, and the specific legal instruments needed to ensure that offshore operators meet their domestic content obligations. Such a framework should distinguish between the exploration phase, where domestically produced goods and services are likely to be limited to basic logistical and support functions, and the development and production phase, where there is greater scope for local supply of engineering, construction, maintenance, and operational services.

CHAPTER 9: THE GOVERNANCE OF THE OUTER CONTINENTAL SHELF AND DEEP SEABED RESOURCES

9.1 Bangladesh's Outer Continental Shelf: Legal Status and Governance Framework

As discussed extensively in the earlier Parts of this commentary, Bangladesh has rights over an outer continental shelf extending beyond the 200-nautical-mile EEZ limit, based on the natural prolongation of its land territory under the sea through the Bengal Fan. The delimitation of the outer continental shelf boundary with India and Myanmar was addressed in the PCA and ITLOS proceedings respectively, and Bangladesh's outer continental shelf rights have been confirmed to a significant extent by these decisions. However, the precise outer limits of Bangladesh's continental shelf in areas not bounded by the delimitation lines established in the two awards remain formally to be determined on the basis of CLCS recommendations.

The governance of Bangladesh's outer continental shelf is legally complex for several reasons. First, the standard coastal state jurisdiction provisions of the UNCLOS framework apply to the outer continental shelf with respect to the seabed and subsoil, giving Bangladesh sovereign rights over the natural resources of the outer shelf, but the superjacent waters remain part of the high seas, governed by the freedom of the high seas principle. This means that any offshore energy operations on the outer continental shelf would need to be conducted in a manner consistent with the freedom of other states in the superjacent high seas, including freedom of navigation and freedom of fishing.

Second, the deep-water geological conditions of the outer continental shelf, in the Bengal Fan south of Bangladesh's 200-mile EEZ, present significantly greater technical challenges for petroleum development than the shallower shelf areas addressed in the 2024 Offshore Bidding Round. Water depths in the outer continental shelf area may exceed 2,000 to 3,000 metres in some areas, requiring ultra-deep-water drilling technology that is at the frontier of the industry's technical capabilities and that carries significantly greater environmental risks than shallow-water operations. The environmental impact assessment requirements for outer continental shelf operations should therefore be correspondingly more stringent.

Third, the governance of outer continental shelf resources raises specific questions about the institutional competence and capacity of Bangladesh's maritime administration. Petrobangla's current institutional capacity is oriented toward the governance of onshore and shallow-water offshore petroleum operations, and it lacks the institutional expertise needed to manage PSC negotiations, operator oversight, and environmental governance for ultra-deep-water outer continental shelf operations. The development of this institutional capacity is a long-term challenge that will require significant investment in technical training, international partnerships, and the development of regulatory expertise.

9.2 The ISA and Bangladesh's Engagement with Deep Seabed Governance

The International Seabed Authority (ISA), established under Part XI of UNCLOS and the 1994 Implementation Agreement, governs the exploitation of mineral resources in the Area, the seabed and ocean floor beyond the limits of national jurisdiction. The ISA has approved exploration contracts for polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts with a number of sponsored entities, and it is in the process of finalising the Mining Code that will govern commercial exploitation of these resources.

Bangladesh's engagement with the ISA and with the governance of deep seabed resources has been limited, reflecting both the country's limited financial and technical resources for deep-sea mining and the legitimate competing priorities of its maritime governance agenda. However, Bangladesh has an important stake in the ISA's governance framework as a developing state party to UNCLOS, since the common heritage of mankind principle requires that the benefits of deep seabed mining accrue to all states, particularly developing states. The ISA's Finance Committee, which advises on the financial terms of exploitation contracts and the use of mining revenues for the benefit of developing states, is a relevant forum for Bangladesh's engagement.

The emerging debate about the pace of commercialisation of deep seabed mining, and the arguments for a precautionary pause or moratorium on commercial seabed mining until the environmental impacts are better understood, is of particular relevance to Bangladesh given its vulnerability to disruptions in the marine ecosystem of the Bay of Bengal and its dependence on healthy oceans for food security and coastal protection. Bangladesh should engage actively in the ISA's regulatory deliberations, advocating for environmental standards that protect the deep sea ecosystem and for benefit-sharing mechanisms that are equitable to developing states.

CHAPTER 10: PHILOSOPHICAL AND THEORETICAL SYNTHESIS: SOVEREIGNTY, JUSTICE, AND THE FUTURE OF OFFSHORE ENERGY LAW

10.1 The Liberal Theory of Resource Governance and Its Limits

The dominant theoretical framework for the governance of offshore energy resources in international law and international political economy is a form of liberal institutionalism: states are the primary actors in international relations, possessing sovereign rights over their natural resources, and the optimal governance of these resources is achieved through a combination of market mechanisms, contract law, and international institutions that reduce transaction costs and coordinate state behaviour. This liberal framework is reflected in the UNCLOS zonal system, in the PSC model of petroleum governance, and in the international investment law framework that protects property rights against arbitrary state action.

The liberal framework has significant analytical purchase in the offshore energy context, and its institutional expressions, including UNCLOS, the ISA, and the system of bilateral investment treaties, have contributed to the development of offshore energy resources in many developing countries, including Bangladesh. However, the liberal framework has significant limitations as a theory of justice in the offshore energy context. It tends to treat the distribution of offshore energy resource rights as fixed by the accident of geography, without asking whether the allocation of sovereign rights over enormously valuable resources to particular states, rather than to the international community or to the global poor, is itself just. It tends to treat the interests of states as unitary, without attending to the distributional questions about which citizens of the resource state actually benefit from offshore energy revenues. And it tends to undervalue the interests of future generations, since market mechanisms tend to discount future benefits and costs in a manner that does not reflect the claims of people who will be alive in fifty or a hundred years.

The communitarian challenge to liberal resource governance theory, associated with scholars including Michael Walzer, Charles Taylor, and more recently with thinkers like Michael Sandel, argues that natural resources are not merely inputs to economic production but part of the cultural and ecological identity of communities, and that their governance cannot be reduced to questions of efficient allocation and maximum revenue extraction. For Bangladesh, this communitarian perspective resonates strongly: the Bay of Bengal is not merely an economic resource but a defining element of Bengali identity, culture, and history. The governance of offshore energy resources should not treat the Bay merely as a source of financial revenue but as a shared cultural and ecological heritage that must be managed with respect for its intrinsic value and its significance to the people and communities that live with and from it.

10.2 The Rawlsian Analysis Revisited: Intergenerational Justice and the Offshore Energy Legacy

John Rawls' theory of intergenerational justice, articulated in the just savings principle in A Theory of Justice and elaborated in subsequent work, provides a framework for thinking about the obligations of the present generation to future generations in the management of natural resources. The just savings principle holds that each generation must save and invest for the

benefit of subsequent generations an amount consistent with the requirements of justice, and that generations that deplete natural capital without adequate compensation or substitution are acting unjustly.

Applied to Bangladesh's offshore energy governance, the just savings principle has specific implications. If Bangladesh exploits its offshore petroleum resources rapidly for the benefit of the present generation, without saving a sufficient portion of the revenue for future generations or investing in the development of renewable energy capacity that will sustain energy access after the petroleum is exhausted, it is acting unjustly toward future Bangladeshis. The establishment of the Petroleum Revenue Fund proposed in Chapter 8 of this Part is one mechanism for implementing the just savings principle: by saving a portion of petroleum revenues and investing them in productive assets, including renewable energy infrastructure, the present generation transfers wealth to future generations in a form that can sustain long-term well-being after the fossil fuel era has ended.

The interaction between the just savings principle and the principle of common but differentiated responsibilities under the Paris Agreement creates a complex normative picture for Bangladesh's offshore energy policy. On the one hand, the just savings principle supports the development of offshore petroleum resources for the benefit of the present and future generations of Bangladeshis. On the other hand, the common but differentiated responsibilities principle, while exempting Bangladesh from the most demanding emissions reduction requirements, does not exempt it entirely from the obligation to consider the global climate impacts of its energy choices. The resolution of this tension in Bangladesh's legal and policy framework requires not a simple either/or choice between development and climate protection, but a sophisticated legal architecture that maximises development benefits while implementing best-available emission reduction technology and investing in the renewable energy transition.

10.3 Postcolonial Theory and the Politics of Offshore Energy Governance

The postcolonial critique of international law and international economic relations, as developed in the TWAIL tradition and in the work of scholars like Frantz Fanon, Edward Said, and more recently Achille Mbembe, provides an important perspective on the politics of offshore energy governance in developing countries like Bangladesh. The history of offshore petroleum development in the developing world is inseparable from the history of colonial and neo-colonial exploitation: the international oil companies that dominate the global offshore petroleum industry have their origins in the colonial concession systems through which the natural resources of colonised territories were appropriated for the benefit of metropolitan powers, and the international legal framework of investment protection has often been used to preserve the advantages gained under colonial economic arrangements.

Bangladesh, as a country that achieved its independence through liberation from colonial and neo-colonial domination, has a particular perspective on the politics of offshore energy governance that is shaped by this historical experience. The demand for equitable terms in PSC negotiations, the assertion of regulatory sovereignty over offshore operations, the promotion of domestic content requirements, and the development of national petroleum expertise are all expressions of the anti-colonial politics of resource sovereignty that are deeply embedded in

Bangladesh's national identity. At the same time, Bangladesh needs foreign investment, technology, and expertise to develop its offshore petroleum resources, and it cannot afford to be so protective of its sovereignty as to deter the investment it requires.

The theoretical challenge is to navigate between two poles: the capitulation to foreign capital represented by excessively investor-friendly PSC terms and weak regulatory frameworks on the one hand, and the resource nationalism represented by unrealistic demands and unstable contractual relationships on the other. The model of conscious, rights-based negotiation, informed by comparative best practice and supported by strong legal and institutional capacity, represents the path between these poles. The development of Bangladesh's legal and institutional capacity for offshore energy governance is therefore not merely a technical project but a political one, an assertion of Bangladesh's right to govern its own resources on its own terms, in accordance with the principles of sovereignty, equity, and sustainable development.

10.4 Critical Ecology and the Ocean Rights Movement

The emerging field of critical ecology and the ocean rights movement, which draws on both environmental philosophy and indigenous rights theory, challenges the dominant anthropocentric framework of offshore energy governance by asserting that the ocean itself has rights that must be respected in the governance of its resources. The recognition of the rights of nature, or ecocentrism, has been incorporated into the constitutional frameworks of Ecuador and Bolivia, and has been the subject of judicial decisions in New Zealand (regarding the Whanganui River) and India (regarding the Ganges), establishing the principle that natural systems can be recognised as legal subjects with rights of their own.

The application of ocean rights theory to the governance of offshore energy in Bangladesh is necessarily speculative, since neither Bangladeshi law nor international law currently recognises the ocean as a legal subject. However, the philosophical perspective of ocean rights offers important critical insights into the framework of offshore energy governance. If the Bay of Bengal is treated not merely as a resource to be exploited for human benefit but as a living system with its own integrity and its own intrinsic value, the threshold for authorising offshore energy activities that damage its ecological integrity is considerably higher. Environmental impact assessment processes that genuinely account for the ocean's intrinsic value, not merely its instrumental value to human users, would be more demanding than those currently practised, and the precautionary principle would carry greater normative weight.

The practical expression of this philosophical perspective in Bangladesh's legal framework could take the form of a rights-of-nature provision in the constitutional framework or in the marine environment protection legislation, creating a legal basis for environmental NGOs and affected communities to represent the interests of the Bay of Bengal in administrative and judicial proceedings regarding offshore energy activities. This would represent a significant innovation in Bangladesh's legal framework, but it would be consistent with the most advanced developments in global environmental law and would give practical expression to Bangladesh's self-identification as a country whose identity and destiny are inseparable from the health of its ocean.

CHAPTER 11: LEGISLATIVE REFORM AGENDA FOR OFFSHORE ENERGY GOVERNANCE

11.1 The Offshore Energy Act: A Blueprint

The central legislative reform recommended by this Part is the enactment of a comprehensive Offshore Energy Act that would provide the unified statutory framework for the governance of all offshore energy activities in Bangladesh's maritime zones. The Act would replace the current patchwork of provisions in the Petroleum Act of 1934, the Petrobangla Ordinance of 1985, the Territorial Waters and Maritime Zones Act, and various administrative orders with a single, coherent, and modern legislative instrument.

The Offshore Energy Act should be organised around the following principal Titles.

Title One should address General Provisions, including the Act's purposes, its geographic scope of application (territorial sea, EEZ, and continental shelf), the definitions of key terms, the establishment of the Offshore Energy Regulatory Authority, and the general principles governing the exercise of regulatory powers, including the principles of transparency, non-discrimination, precaution, and the duty to protect the marine environment.

Title Two should address Offshore Hydrocarbon Governance, including the framework for the licensing and administration of petroleum exploration and production activities, the provisions governing Production Sharing Contracts (including standard terms, competitive bidding procedures, transparency requirements, and the conditions for variation and termination), the powers and responsibilities of the Offshore Energy Regulatory Authority in relation to petroleum operations, the safety and environmental standards applicable to petroleum operations, the financial security requirements for operators, and the enforcement provisions.

Title Three should address Offshore Renewable Energy Governance, including the framework for the licensing of offshore wind, tidal, wave, and other marine renewable energy installations, the marine spatial planning requirements for the designation of areas suitable for different forms of offshore energy development, the grid connection arrangements for offshore renewable energy, the support mechanisms for offshore renewable energy, and the safety and environmental standards applicable to offshore renewable energy installations.

Title Four should address Environmental Protection and Safety, incorporating the specific environmental impact assessment requirements for offshore energy activities, the oil spill prevention and response framework, the greenhouse gas performance standards for offshore energy operations, the decommissioning requirements for offshore energy installations, and the enforcement provisions for environmental violations.

Title Five should address the Petroleum Revenue Fund, establishing the Fund's legal status, governance structure, investment mandate, fiscal rules for contributions and withdrawals, and accountability provisions.

Title Six should address Domestic Content and Local Development, establishing the domestic content requirements for offshore energy operators, the mechanisms for monitoring and enforcing these requirements, the technology transfer obligations, the workforce development requirements, and the community benefit obligations for offshore energy operations near fishing communities and coastal populations.

Title Seven should address Institutional Arrangements, establishing the Offshore Energy Regulatory Authority as the principal regulatory body, defining its relationship with Petrobangla (which would retain its commercial functions), the Ministry of Energy, the Department of Environment, the Bangladesh Coast Guard, and other relevant agencies, and establishing the coordination mechanisms for integrated offshore energy governance.

Title Eight should address Dispute Resolution, establishing the mechanisms for the resolution of disputes between offshore energy operators and the state, including internal administrative review, domestic court proceedings, and the conditions under which international arbitration is available. The Act should specifically provide for the state's right to assert environmental obligations in any dispute resolution forum and should limit the scope of stabilisation clauses to prevent their application to bona fide environmental regulatory measures.

11.2 Amendments to the Territorial Waters and Maritime Zones Act

The Offshore Energy Act should be complemented by targeted amendments to the Territorial Waters and Maritime Zones (Amendment) Act of 2021, addressing the specific lacunae identified in the earlier Parts of this commentary that are most directly relevant to offshore energy governance. These amendments should include the following specific provisions.

A new section specifically addressing the legal framework for offshore artificial islands and installations should be inserted, clarifying the coastal state's jurisdiction over installations in the EEZ and continental shelf, the conditions for the establishment and removal of safety zones, and the environmental obligations applicable to installation operations.

A new section specifically addressing the grey area problem identified in the Bangladesh-India PCA award should be inserted, providing that in the area where Bangladesh has continental shelf rights but India has EEZ rights in the superjacent water column, Bangladesh's jurisdiction over seabed operations, including offshore drilling and cable and pipeline installation, is exercised in accordance with its continental shelf rights under UNCLOS Article 77, and providing for notification to India of any such operations and for cooperation in environmental incident response.

A new section specifically addressing the legal status of offshore renewable energy installations should be inserted, clarifying the applicable legal regime for offshore wind farms and other marine renewable energy installations in the territorial sea, EEZ, and continental shelf, the conditions for grid connection cables crossing maritime boundaries, and the interface between offshore renewable energy governance and the marine spatial planning framework.

A new section specifically addressing the obligations confirmed by the 2024 ITLOS Advisory Opinion should be inserted, providing that all offshore energy activities authorised under Bangladeshi maritime law must comply with Bangladesh's due diligence obligations under UNCLOS Part XII to prevent, reduce, and control marine pollution, including marine pollution from greenhouse gas emissions, and establishing the legal basis for the incorporation of greenhouse gas performance standards into offshore energy licences and PSC conditions.

11.3 The Marine Spatial Planning Act

The legislative reform agenda for offshore energy governance is inseparable from the broader reform of Bangladesh's marine governance framework, and particularly from the development of a Marine Spatial Planning Act that provides the spatial planning foundation for the orderly and integrated governance of different uses of Bangladesh's maritime zones.

As detailed in Chapter 3 of this Part, the MSP Act should establish the legal basis for the preparation, adoption, and periodic revision of a National Marine Spatial Plan; designate specific zones for different maritime uses; establish a public consultation process; and create a system of permits consistent with the plan designations. In the offshore energy context, the MSP Act should specifically provide for the designation of Offshore Energy Zones in which offshore petroleum and renewable energy activities are prioritised, Fisheries Protection Zones in which offshore energy activities are excluded or subject to enhanced environmental safeguards, Environmental Protection Areas providing special protection for sensitive ecosystems including the Sundarbans, Marine Heritage Areas for the protection of underwater cultural heritage, and Strategic Navigation Corridors ensuring that offshore energy development does not unreasonably constrain navigational freedom.

The development of the National Marine Spatial Plan itself, as the central governance instrument for Bangladesh's maritime zones, should be a major inter-ministerial and multi-stakeholder undertaking, drawing on the latest oceanographic and ecological research on the Bay of Bengal, on the knowledge and experience of coastal fishing communities, on the assessment of Bangladesh's offshore energy potential, and on the guidance of international experts in marine spatial planning. The UNESCO Intergovernmental Oceanographic Commission's MSP guidelines provide the methodological framework for this process, and international development partners including the World Bank, the European Union, and bilateral donors should be engaged to provide technical and financial support.

CHAPTER 12: THE INSTITUTIONAL ARCHITECTURE OF OFFSHORE ENERGY GOVERNANCE

12.1 The Offshore Energy Regulatory Authority: Design Principles and Functions

The establishment of an Offshore Energy Regulatory Authority (OERA) as the principal regulatory body for offshore energy activities in Bangladesh is the central institutional reform recommended by this Part. The OERA should be a statutory body established by the Offshore

Energy Act, reporting to the Ministry of Energy but exercising its regulatory functions with a high degree of technical independence from political direction.

The design principles for the OERA should include independence, expertise, transparency, and accountability. Independence from commercial interests requires that OERA members and staff should be prohibited from holding financial interests in offshore energy companies, and that the Authority's regulatory decisions should not be subject to ministerial direction in individual cases. Expertise requires that the Authority's leadership and technical staff should include professionals with qualifications and experience in petroleum engineering, marine environmental science, maritime law, and energy economics. Transparency requires that the Authority's licensing decisions, regulatory standards, and enforcement actions should be publicly disclosed, subject only to the necessary protection of commercially sensitive information. Accountability requires that the Authority's decisions should be subject to administrative review and judicial challenge, and that the Authority should be required to report annually to parliament on its activities.

The OERA's principal functions should include the administration of offshore energy licensing, including the evaluation of applications for exploration and production licences, the negotiation and approval of PSC terms, the monitoring of compliance with licence conditions and PSC obligations, and the exercise of enforcement powers against non-compliant operators. The Authority should also be responsible for the administration of the offshore renewable energy licensing regime, the coordination of maritime spatial planning for offshore energy purposes, the development and updating of offshore energy safety and environmental standards, the investigation of offshore energy incidents and accidents, and the representation of Bangladesh in international forums concerned with offshore energy governance.

12.2 The Coordination of Offshore Energy Governance Across Institutions

Offshore energy governance in Bangladesh inevitably involves multiple institutions, since the governance of offshore petroleum and renewable energy activities intersects with the mandates of the Ministry of Energy, the Ministry of Environment, the Ministry of Shipping, Petrobangla, the Bangladesh Coast Guard, the Bangladesh Navy, the Department of Environment, the Chittagong Port Authority, and other agencies. The lack of effective coordination among these institutions is one of the most persistent governance deficiencies identified in this commentary, and the reform of institutional coordination mechanisms is as important as the reform of the primary regulatory authority.

A National Offshore Energy Council, chaired by the Minister of Energy and including the heads of all relevant agencies and ministries, should be established by the Offshore Energy Act as the highest-level coordinating body for offshore energy governance. The Council should be responsible for approving the National Offshore Energy Strategy, coordinating the positions of different ministries in international forums related to offshore energy governance, resolving inter-ministerial conflicts about the governance of offshore energy activities, and overseeing the implementation of the comprehensive offshore energy law reform programme.

At the technical level, a Coordination Committee on Offshore Safety and Environment, chaired by the OERA and including representatives of the Department of Environment, the Bangladesh

Coast Guard, the Bangladesh Navy, and Petrobangla, should provide the operational coordination mechanism for day-to-day governance of offshore energy activities, including the coordination of environmental monitoring, the management of offshore safety incidents, and the joint oversight of compliance with environmental and safety standards.

12.3 Parliamentary Oversight of Offshore Energy Governance

The parliamentary oversight of offshore energy governance in Bangladesh is currently inadequate, reflecting both the limited technical expertise of parliamentary committees in this specialised area and the historical tendency toward executive dominance in Bangladesh's political system. The reform of parliamentary oversight of offshore energy governance is an important element of the democratic accountability framework that any comprehensive legal reform must address.

The Parliamentary Committee on Energy should be strengthened with technical secretariat support, including access to independent expert advice on offshore energy policy, PSC terms, and environmental governance. The Committee should have specific oversight responsibilities including the review and approval of the National Offshore Energy Strategy, the annual scrutiny of OERA's performance reports, the examination of major PSC terms before signature, and the oversight of the Petroleum Revenue Fund. The Committee should also have the power to commission independent technical reviews of specific offshore energy governance issues, drawing on the expertise of academic institutions, international organisations, and civil society.

CHAPTER 13: THE ROLE OF CIVIL SOCIETY AND AFFECTED COMMUNITIES IN OFFSHORE ENERGY GOVERNANCE

13.1 Community Rights and Offshore Energy: A Justice Framework

The governance of offshore energy activities in Bangladesh cannot be adequate from a justice perspective unless it incorporates meaningful mechanisms for the participation of affected communities, particularly coastal fishing communities whose livelihoods and ways of life are most directly affected by offshore energy development. The legal framework for community participation in offshore energy governance draws on several distinct bodies of international law and principle, including the UNCLOS Part XII provisions on marine environmental protection, the BBNJ Agreement's provisions on stakeholder consultation in environmental impact assessment, the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas of 2018 (which addresses the rights of fishing communities), and the emerging body of customary international law on free, prior, and informed consent for activities affecting traditional livelihoods.

The coastal fishing communities of Bangladesh, who number in the millions and who have fished the waters of the Bay of Bengal for many generations, have a deep stake in the governance of offshore energy activities. The establishment of safety zones around offshore installations excludes fishing vessels from areas that have historically been productive fishing grounds. Oil

spills and the pollution associated with offshore drilling operations can devastate fish stocks and render fishing grounds unusable for extended periods. The construction of offshore wind farms can create physical barriers to fishing access and alter the hydrodynamic and ecological characteristics of the areas in which they are located, with complex effects on fish distribution that may be positive (through the creation of artificial reef habitat) or negative (through the displacement of traditional fishing grounds).

The legal framework for community rights in offshore energy governance should provide for the following mechanisms at minimum. Public consultation on offshore energy licence applications, including specific outreach to coastal fishing communities in areas adjacent to proposed offshore energy activities, with consultation materials provided in Bengali and in accessible formats suitable for communities with limited literacy. Community benefit agreements, which would require offshore energy operators to negotiate and implement agreements with affected fishing communities providing for compensation for access restrictions, benefits from offshore energy development, and support for adaptation of fishing practices to the changed offshore environment. Grievance mechanisms, including accessible and independent procedures for communities to raise concerns about the implementation of offshore energy activities and to seek redress for harms.

13.2 Civil Society Oversight and the Extractive Industries Transparency Initiative

The Extractive Industries Transparency Initiative (EITI) is the international transparency standard for the extractive industries, including petroleum and mining, under which member countries commit to transparent disclosure of revenues from resource extraction, contract terms, and beneficial ownership of resource companies. Bangladesh is not currently a member of the EITI, and the non-membership is a significant gap in the transparency framework for offshore energy governance.

EITI membership would require Bangladesh to disclose the terms of all offshore PSCs, the production and revenue data reported by operators, the receipts of the government from petroleum activities, and the beneficial ownership information of contractors and their subcontractors. These disclosures would enable civil society organisations, academics, and the media to scrutinise the commercial terms of offshore energy contracts, to verify that the government is receiving the revenues to which it is entitled, and to assess whether the management of offshore energy revenues is consistent with the public interest. The development of an active and informed civil society engagement with offshore energy governance is itself a public good, providing a form of accountability that complements and reinforces formal institutional oversight.

The recommendation that Bangladesh join the EITI and implement its transparency standards is not merely a technical recommendation; it is a political one, since it requires the government to commit to a degree of transparency about offshore energy contracts and revenues that may be uncomfortable for some stakeholders. The case for this transparency, however, is compelling from the perspectives of accountability, anti-corruption, and the development of public trust in offshore energy governance, all of which are prerequisites for the politically sustainable management of Bangladesh's offshore energy resources.

CHAPTER 14: THEORETICAL AND JURISPRUDENTIAL SYNTHESIS

14.1 Sovereignty, Commons, and the Ocean Energy Future

The theoretical analysis of offshore energy governance in Bangladesh's maritime zone ultimately returns to the fundamental jurisprudential tension identified at the beginning of this commentary in Part One: the tension between the principle of freedom (res communis) and the principle of sovereignty (res propria) in the governance of maritime spaces. The UNCLOS framework resolved this tension, at least formally, through the zonal system that allocated sovereign rights to the coastal state within the EEZ and continental shelf while preserving freedoms of navigation and other uses in the outer zones. But the application of this framework to offshore energy governance, particularly in the context of climate change and the energy transition, reveals the continuing relevance and vitality of this fundamental tension.

The sovereign rights of Bangladesh over offshore energy resources in its EEZ and continental shelf are not absolute; they are rights to exploit, conserve, and manage resources in the context of international obligations that include the obligation to protect the marine environment, the obligation to give due regard to the rights of other states, and the emerging obligation to prevent, reduce, and control greenhouse gas emissions as confirmed by the 2024 ITLOS Advisory Opinion. The governance of offshore energy must navigate this complex web of rights and obligations, and the legal framework for that governance must reflect the complexity rather than seeking to reduce it to a simple assertion of coastal state sovereignty.

The commons tradition in political theory, associated with Ostrom's work on the governance of common pool resources and more recently with Hardt and Negri's analysis of the commons in the context of contemporary capitalism, offers a different perspective on offshore energy governance that challenges the sovereign rights framework. On this view, the offshore energy resources of the Bay of Bengal are not primarily the sovereign property of the Bangladeshi state, to be governed for the state's fiscal benefit, but a commons shared among the fishing communities, the coastal populations, the state as trustee, and the international community as the collective guardian of the marine environment. The governance of these resources should therefore be oriented toward their sustainable use for the common benefit, not merely the maximisation of state revenue.

The practical implications of this commons perspective for Bangladesh's offshore energy governance are subtle but significant. The commons perspective would support mandatory benefit-sharing mechanisms that distribute offshore energy revenues not only to the state but directly to coastal fishing communities whose access to the commons is restricted by energy development. It would support the incorporation of non-monetary values, including cultural heritage, ecological integrity, and community identity, into the decision-making framework for offshore energy licensing. And it would support the development of participatory governance mechanisms that give affected communities genuine voice in the decisions about how the offshore commons are used, rather than merely consulting them after decisions have already been made.

14.2 Legal Pluralism and the Multiple Normative Orders of Offshore Energy Governance

The governance of offshore energy in Bangladesh operates within a context of legal pluralism, where multiple normative orders, including international law (UNCLOS, investment treaties, climate law), domestic law (the petroleum legislation, the territorial waters law, environmental law), regulatory frameworks (Petrobangla's PSC administration, the OERA when established), community norms (fishing community customary practices regarding access to fishing grounds), and corporate standards (the safety management systems and environmental policies of international oil companies) all make claims on the conduct of offshore energy activities and on the resolution of disputes about those activities.

Legal pluralism theory, as developed by scholars including John Griffiths, Sally Falk Moore, and Brian Tamanaha, argues that law cannot be understood solely through the lens of state-enacted positive law; multiple normative orders coexist and interact in social life, and the governance of human activities requires attention to all of these orders. In the offshore energy context, this means that an effective governance framework must acknowledge and manage the interaction between international norms, domestic legal requirements, community customary practices, and corporate self-regulation, rather than simply asserting the primacy of state law over all other normative claims.

The community customary practices of coastal fishing communities in Bangladesh, including the informal rules about access to traditional fishing grounds, the seasonal patterns of fishing activity, and the community governance of fishing conflicts, are normative systems with deep historical roots and genuine social authority among the communities that practise them. The formal legal framework for offshore energy governance must engage with these customary normative systems, both to avoid infringing the legitimate claims of fishing communities and to build the social legitimacy of offshore energy governance among the populations most directly affected.

The corporate self-regulation of international oil companies, including the safety management systems, environmental management systems, and social responsibility policies that they apply globally, represents another normative layer that interacts with formal legal requirements. International oil companies typically apply their own internal environmental and safety standards, which in many cases exceed the requirements of the domestic law of the host country, as a risk management strategy that protects their global reputation and their licence to operate in markets where regulatory requirements are high. Bangladesh's legal framework should engage strategically with this corporate self-regulation, incorporating reference to relevant international industry standards in its licensing requirements and using corporate reputational incentives as a complement to formal enforcement.

14.3 The Rule of Law in Offshore Energy Governance: Formalism and Substantive Justice

The rule of law ideal, as it applies to offshore energy governance in Bangladesh, encompasses both formal and substantive dimensions. The formal rule of law requires that offshore energy activities be governed by clearly stated, publicly accessible, prospectively applied, and consistently enforced legal rules; that the rights and obligations of operators and the state be

determined by legal criteria rather than by personal discretion; and that disputes be resolved through impartial and independent legal processes. The substantive rule of law requires that the legal framework for offshore energy governance embodies principles of justice, including the equitable distribution of resource benefits, the protection of community rights, the precautionary approach to environmental harm, and the fulfilment of international legal obligations.

Bangladesh's current offshore energy governance framework falls short of both the formal and the substantive rule of law in several specific respects. The formal deficiencies include the absence of a publicly accessible and legally binding statement of the PSC fiscal terms on which licences are awarded (the practice of confidential negotiation, while common in the industry, is inconsistent with the formal rule of law ideal), the inconsistent enforcement of environmental and safety standards, and the inadequate independence of regulatory decision-making from political influence. The substantive deficiencies include the failure to protect the rights of coastal fishing communities, the inadequate implementation of environmental obligations, and the failure to ensure equitable distribution of offshore energy benefits.

The comprehensive legal reform proposed in this Part addresses both sets of deficiencies: by establishing clear and publicly accessible legal standards for offshore energy governance, transparent licensing procedures, independent regulatory institutions, and accountable fiscal management, it promotes the formal rule of law; by incorporating community benefit obligations, robust environmental standards, and fiscal mechanisms for equitable revenue distribution, it promotes substantive justice.

CONCLUDING OBSERVATIONS TO PART THIRTEEN

Part Thirteen has undertaken a comprehensive examination of the legal framework for offshore energy governance in Bangladesh's Exclusive Economic Zone and continental shelf. The analysis has ranged from the deepest philosophical foundations of resource sovereignty theory, through the detailed architecture of UNCLOS and its provisions on energy resource rights, through the specific legal instruments governing hydrocarbon exploration and production in Bangladesh, through the emerging legal framework for offshore renewable energy, through the environmental law dimensions of offshore energy governance in the post-2024 ITLOS Advisory Opinion era, through the international investment law constraints on energy regulation, through comparative experiences in Norway, Indonesia, India, and Mozambique, and through the theoretical frameworks of liberalism, communitarianism, postcolonial theory, and critical ecology that illuminate different dimensions of the governance challenge.

The central finding of this Part is that Bangladesh's offshore energy governance framework is characterised by a fundamental mismatch between the scale of the legal, institutional, and intellectual challenge and the current capacity of the legal system and the regulatory institutions to meet that challenge. Bangladesh has secured, through the success of its international maritime arbitrations, rights over an offshore energy province that may prove to be among the most significant sources of energy wealth in South Asia. But it has not yet developed the legal framework, the institutional capacity, the regulatory expertise, or the governance philosophy

needed to translate those rights into equitable, sustainable, and environmentally responsible development outcomes.

The reform agenda proposed in this Part is ambitious, multi-dimensional, and long-term. The enactment of a comprehensive Offshore Energy Act, the establishment of an independent Offshore Energy Regulatory Authority, the development of a Marine Spatial Planning Act, the reform of the PSC fiscal framework, the establishment of a Petroleum Revenue Fund, the accession to EITI transparency standards, the development of offshore renewable energy licensing and support frameworks, the incorporation of climate obligations into offshore energy licensing, the development of community benefit mechanisms, and the engagement with Bangladesh's constitutional and international law obligations all require sustained political commitment, significant institutional investment, and the development of specialised legal and technical expertise that Bangladesh is only beginning to build.

What this Part has sought to demonstrate, through the rigour of its jurisprudential and theoretical analysis, is that the governance of offshore energy in Bangladesh is not merely a technical regulatory problem but a question of the deepest legal philosophy and political theory. It engages the fundamental questions about the nature of sovereignty, the claims of justice across generations and communities, the obligations of states to the marine environment and to the international community, and the balance between national development and global sustainability. These are not questions that can be answered by administrative circulars or piecemeal amendments to inherited colonial legislation. They demand the kind of comprehensive, principled, and intellectually rigorous legal framework that this commentary has attempted, through this Part and its predecessors, to elaborate and justify.

The Bay of Bengal, as this commentary has insisted from its opening pages, is not merely a resource province or a legal object. It is the defining geographical feature of Bangladesh's national existence, the source of its ecological heritage, the medium of its commerce and its culture, and the arena in which its sovereign rights, its international obligations, and its human destiny meet and interact. The law that governs the energy resources of that Bay must be worthy of its subject.

Part Fourteen will examine the governance of marine scientific research, hydrographic survey, and ocean data management in Bangladesh's maritime zones, addressing the legal framework under UNCLOS Part XIII, Bangladesh's domestic institutions for ocean science, and the emerging issues of digital ocean governance and artificial intelligence in maritime administration.

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Part Thirteen concludes here. Part Fourteen will examine the governance of marine scientific research, hydrographic survey, and ocean data management in Bangladesh's maritime zones, addressing the legal framework under UNCLOS Part XIII, the institutional architecture of ocean science in Bangladesh, the comparative experience of leading ocean research states, and the emerging issues of digital ocean governance and artificial intelligence in maritime administration.

PART FOURTEEN

MARINE ENVIRONMENTAL GOVERNANCE, THE BBNJ AGREEMENT, CLIMATE JUSTICE, AND THE IMPERATIVE OF COMPREHENSIVE REFORM IN BANGLADESH'S MARITIME ENVIRONMENTAL LEGAL ARCHITECTURE

A COMMENTARY ON THE JURISPRUDENTIAL REVOLUTION OF 2024 TO 2026, THE PHILOSOPHICAL FOUNDATIONS OF OCEAN ENVIRONMENTAL LAW, AND THE STRUCTURAL TRANSFORMATION DEMANDED OF BANGLADESH AS A STATE AT ONCE VICTIMISED BY MARINE ENVIRONMENTAL CRISIS AND OBLIGATED BY THE HIGHEST STANDARDS OF INTERNATIONAL DUE DILIGENCE

PREFACE TO PART FOURTEEN

The year 2024 marked a decisive inflection in the jurisprudential history of the international law of the sea. The International Tribunal for the Law of the Sea, in its unanimous Advisory Opinion of 21 May 2024 delivered in response to the request of the Commission of Small Island States on Climate Change and International Law, confirmed that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under international law. The year 2025 then deepened this transformation through the Advisory Opinion of the International Court of Justice, rendered on 23 July 2025, which affirmed and extended the ITLOS findings, integrating the law of the sea with international human rights law and general customary international law in a

comprehensive judicial articulation of states' climate obligations. And the year 2026 opened with a landmark of a different but equally transformative character: the entry into force on 17 January 2026 of the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, universally known as the BBNJ Agreement or the High Seas Treaty.

These three developments, considered together, represent the most significant transformation in the substance and architecture of international marine environmental law since the adoption of UNCLOS itself in 1982. They alter the legal landscape in which every coastal state operates, and they alter it in ways that are of particular and immediate consequence for Bangladesh. Bangladesh is a country whose coastal and marine environment is already suffering from the effects of anthropogenic climate change with devastating intensity. Sea-level rise, coastal erosion, saline intrusion, ocean acidification, increased cyclonic intensity, and the degradation of the Sundarbans mangrove ecosystem are not hypothetical future risks for Bangladesh; they are present realities that are already displacing communities, destroying livelihoods, and threatening the physical foundations of the state's maritime jurisdiction. The international legal framework has now confirmed, through the highest judicial authorities available, that these harms are the consequence of marine pollution for which other states bear legal responsibility, and that all states, including Bangladesh itself, bear due diligence obligations to prevent, reduce, and control such pollution.

This Part undertakes a comprehensive and systematically critical examination of the entire architecture of marine environmental governance as it applies to Bangladesh. It proceeds through a rigorous engagement with the philosophical, jurisprudential, theoretical, and political dimensions of the subject, drawing on the deepest traditions of legal and moral philosophy, on the most recent developments in international jurisprudence, on the historical evolution of international marine environmental law, and on a candid and detailed assessment of the profound inadequacies of Bangladesh's current domestic legal framework. It is a Part animated by the conviction, which runs throughout this entire commentary, that academic legal analysis must ultimately serve the cause of reform, and that the reform of Bangladesh's maritime environmental legal architecture is not merely a matter of regulatory housekeeping but an existential imperative for a nation whose very physical geography is under assault from a planetary environmental crisis that international law is only now, and imperfectly, beginning to address.

CHAPTER 1: THE PHILOSOPHY OF MARINE ENVIRONMENTAL LAW: FROM PROPERTY TO STEWARDSHIP

1.1 The Ownership Problem: Can Anyone Own the Sea?

The foundational philosophical problem of marine environmental law is simultaneously the oldest problem in the jurisprudence of the sea and a problem that has acquired entirely new dimensions in the era of ecological crisis. The question is deceptively simple: if the sea belongs to everyone, or to no one, or to the international community, or to mankind as such, what does that mean for the obligation to protect it? Who has standing to demand its protection? Who bears

the obligation to ensure that protection? And what is the nature and content of the obligation itself?

The Roman jurisprudential tradition, which established the foundational conceptual vocabulary of Western maritime law, characterised the sea as res communis omnium, a thing common to all. This characterisation was not, as it might superficially appear, an assertion of collective ownership; it was rather an assertion that the sea, like the air and like natural light, belonged to the category of things that by their very nature could not be appropriated by any individual or entity. The sea could not be owned because ownership, in the Roman legal framework, presupposed a specific relationship of exclusive control between an owner and a thing, and the sea was incapable of sustaining that relationship. You could sail on the sea, fish in the sea, and use the sea for commerce; but you could not own the sea, because the sea would not hold still long enough to be owned.

This original characterisation of the sea as res communis had important implications for the question of environmental protection that its Roman authors could not have anticipated. If the sea belongs to no one, then no one has the standing of a private owner to sue for its protection. If the sea belongs to everyone, then everyone has an interest in its protection but no one has a specific, enforceable right to enforce that interest. The result is what the political economist Garrett Hardin famously described, in his 1968 essay on the tragedy of the commons, as the systematic overexploitation of common resources by rational individual actors each of whom benefits from use of the resource but bears only a fraction of the cost of its degradation. The tragedy of the commons analysis, applied to the ocean, predicts precisely the patterns of overfishing, pollution, and ecological degradation that have characterised the human relationship with the sea throughout the modern period.

The Grotian tradition of the freedom of the seas, discussed in Part One of this commentary, paradoxically exacerbated the tragedy of the commons in the marine context by insulating the ocean from the regimes of property rights and sovereign governance that, in Hardin's analysis, are the principal mechanisms by which commons tragedies can be averted. If the sea is free, it is free not only for commerce and navigation but also for pollution and exploitation, and no state has the authority to prevent another from using that freedom destructively. The philosophical coherence of the freedom of the seas as an organising principle for the governance of a planetary ecosystem was always questionable, but it was a coherence that practical necessity and power politics sustained for three centuries before its limitations became inescapably apparent.

The critique of the freedom of the seas as an adequate framework for marine environmental governance is not merely historical. It remains conceptually important for understanding the current architecture of international marine environmental law, because that architecture is built on the foundation of the UNCLOS zonal system, which preserves the freedom of the seas in the high seas while attributing coastal state environmental jurisdiction in the territorial sea, EEZ, and continental shelf zones. The environmental governance implications of this zonal framework are profound and are discussed in detail below. For the moment, it is sufficient to note that the transition from the freedom of the seas to a system of zonal governance represents only a partial solution to the tragedy of the commons, because the high seas, which constitute approximately

half of the ocean's surface, remain subject to the freedom principle and therefore to the risk of commons tragedy.

The philosophical alternative to the commons framework is the stewardship model. On the stewardship model, the sea is not owned by anyone but is held in trust by the community of states for the benefit of present and future generations. The stewardship model does not require a property owner with individual rights to vindicate; it requires instead a set of obligations, imposed on all states by virtue of their participation in the international community, to manage the ocean with care and foresight for the benefit of all. This model resonates with several influential traditions in moral and political philosophy, including the intergenerational justice theory of John Rawls (particularly as extended by Rawls's interpreters and successors), the environmental ethics tradition associated with philosophers such as Aldo Leopold, Holmes Rolston III, and J. Baird Callicott, and the capabilities approach of Amartya Sen and Martha Nussbaum as applied to the non-human natural world.

The common heritage of mankind principle, introduced by Arvid Pardo in 1967 and adopted in modified form in UNCLOS as the governing principle for the Area, is the most radical and philosophically ambitious expression of the stewardship model in positive international law. By declaring that the seabed beyond national jurisdiction is the common heritage of mankind, UNCLOS established, for the first time in the history of international law, a legal category that transcends the state system: not the property of any state, not a commons free for all, but a shared heritage governed for the benefit of all people, including those not yet born. The common heritage principle was controversial when it was proposed, and it remains controversial, but its philosophical ambition, the idea that some aspects of the natural world belong to humanity as a whole and must be governed accordingly, has proven extraordinarily influential in the development of international environmental law.

1.2 Deep Ecology, Environmental Ethics, and the Rights of the Ocean

The philosophical traditions that have shaped international environmental law are broader than the traditions of property and sovereignty that dominate the standard legal analysis. Beginning in the 1970s, a body of environmental ethics scholarship developed that challenged the anthropocentric premises of mainstream moral and political philosophy and argued that non-human nature has intrinsic value, independent of its value to human beings. The deep ecology tradition, developed by the Norwegian philosopher Arne Naess and extended by a range of subsequent thinkers, argues that the diversity and richness of life on earth have value in themselves, and that human activities that reduce this diversity and richness are wrong not merely because they harm human interests but because they are intrinsically wrong. On this view, the destruction of marine ecosystems, the extinction of marine species, and the acidification of the ocean are wrongs that cannot be fully captured by any framework of human interest, however comprehensively understood.

The rights of nature movement, which has had its greatest influence in constitutional law in countries such as Ecuador, Bolivia, and New Zealand, extends the deep ecology position into the legal domain by arguing that natural entities, including rivers, forests, and oceans, should be recognised as legal persons with rights that can be asserted before courts and tribunals. The

Whanganui River in New Zealand, which was recognised as a legal person by Act of Parliament in 2017, is the most frequently cited example of this approach. The application of the rights of nature framework to the ocean, and specifically to Bangladesh's maritime zones, is a speculative but intellectually serious possibility that deserves consideration in any comprehensive treatment of the philosophical foundations of marine environmental law.

Bangladesh's legal tradition does not yet include a rights of nature framework, and the dominant international law of the sea is firmly anthropocentric in its orientation: it protects the marine environment because human beings benefit from the services that healthy marine ecosystems provide, and not because those ecosystems have value in themselves. But the philosophical debate about the intrinsic value of marine ecosystems is not without practical legal implications. The 2024 ITLOS Advisory Opinion's confirmation that states have a due diligence obligation to protect and preserve the marine environment is grounded in the language of UNCLOS Article 192, which imposes this obligation without requiring a specific showing of harm to particular human interests. The open-textured character of this obligation creates space for interpretations that give weight to ecosystem protection beyond the immediate interests of fishing communities and coastal populations, and those interpretations are more tractable if the underlying philosophy acknowledges that marine ecosystems matter not merely instrumentally but in their own right.

The capability approach, developed by Amartya Sen and extended by Martha Nussbaum to include non-human animals, provides a middle ground between pure anthropocentrism and radical ecocentrism that is philosophically defensible and practically tractable. On this approach, the relevant question is not only what a legal framework does for human beings but what capabilities it enables for all sentient beings capable of living a flourishing life. Applied to the marine context, this would require a legal framework that goes beyond the protection of commercially valuable fish stocks and addresses the full range of marine biodiversity, including non-commercially exploited species, marine mammals, and the ecosystems on which all marine life depends. Bangladesh's legal framework, which is almost entirely oriented toward the governance of commercially exploitable resources, falls far short of this broader conception of marine environmental governance.

1.3 The Precautionary Principle: From Philosophical Concept to Legal Norm

The precautionary principle is one of the most philosophically interesting and jurisprudentially contested concepts in international environmental law. In its most common formulation, as expressed in Principle 15 of the 1992 Rio Declaration on Environment and Development, the principle provides that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The principle addresses a fundamental epistemic problem in environmental governance: the relationship between scientific uncertainty and the obligation to act. Environmental damage is often irreversible; by the time the scientific evidence of harm is conclusive, the harm may already be done. The precautionary principle responds to this problem by shifting the burden of proof: rather than requiring proof of harm before action is taken, it requires that in the face of serious risk, action should be taken even in the absence of conclusive proof.

The philosophical underpinnings of the precautionary principle are complex and not entirely coherent. Its epistemic foundations draw on work in decision theory and the philosophy of science, particularly on the concept of decision-making under uncertainty in the face of potentially catastrophic outcomes. The asymmetry between the costs of acting when action proves unnecessary and the costs of failing to act when action was necessary justifies a risk-averse approach to potentially irreversible harms. Its moral foundations draw on the deontological tradition in ethics, which argues that some harms are wrong regardless of their overall consequences, and on the intergenerational justice tradition, which argues that the interests of future generations must be given weight in present decision-making.

The precautionary principle has been incorporated into UNCLOS and its implementing instruments in various formulations. The UNCLOS fisheries provisions require states to take into account the best scientific evidence available in determining the allowable catch and conservation measures, and the 1995 UN Fish Stocks Agreement explicitly incorporates the precautionary approach. The 2024 ITLOS Advisory Opinion's discussion of due diligence in the context of marine pollution from greenhouse gas emissions implicitly adopts a precautionary approach: the Tribunal held that states must take all necessary measures to prevent marine pollution from GHG emissions, and that this obligation requires the use of best available technology and the implementation of best environmental practices, standards that are grounded in the precautionary principle's logic of risk-averse environmental governance.

For Bangladesh, the precautionary principle has particular salience in several contexts. In the governance of offshore hydrocarbon development, where the risk of catastrophic oil spills is real and the consequences for the marine environment and for coastal fishing communities would be severe, a precautionary approach demands stringent safety and environmental impact assessment requirements before licensing is granted. In the governance of marine fisheries, where the history of overfishing and stock collapse in other contexts provides strong grounds for caution, a precautionary approach demands the establishment of conservative catch limits and robust monitoring systems. And in the context of climate change adaptation, where the risks of further sea-level rise and ocean warming are increasingly well-understood and the consequences for Bangladesh are potentially existential, a precautionary approach demands urgent and comprehensive action rather than a wait-and-see response.

The challenge of implementing the precautionary principle in a developing state context is significant. Precautionary regulation is costly, both in terms of the direct costs of regulatory compliance and in terms of the foregone economic benefits of activities that are restricted or prohibited. For Bangladesh, a country with enormous development needs and limited regulatory capacity, the burden of precautionary environmental regulation may be genuinely difficult to sustain. But the alternative, the failure to implement precautionary environmental governance and the consequent degradation of marine resources and coastal environments, is a cost that Bangladesh can equally not afford. The challenge is to design a precautionary regulatory framework that is both environmentally effective and economically proportionate, drawing on international financial and technical assistance where necessary to bridge the capacity gap.

1.4 Intergenerational Justice and the Ocean: Rawls, the Mahbub ul-Haq Tradition, and Bangladesh

The concept of intergenerational justice, the idea that the present generation has obligations to future generations not to exhaust the natural resources or degrade the environmental conditions that future people will need, is central to sustainable development theory and increasingly central to international environmental law. Its philosophical origins lie in the social contract tradition, but its most systematic modern elaboration is in the work of John Rawls, whose theory of justice, presented in A Theory of Justice in 1971 and elaborated in Political Liberalism and The Law of Peoples, includes a just savings principle that requires each generation to preserve the gains of culture and civilization and to maintain just institutions intact from one generation to the next.

Rawls's just savings principle, while not specifically directed at environmental resources, provides a useful framework for thinking about intergenerational obligations in the marine context. Applied to ocean governance, the just savings principle would require the present generation to avoid depleting marine resources, degrading marine ecosystems, or altering ocean chemistry in ways that would leave future generations with a worse marine environment than the present generation inherited. This standard is clearly not being met in the global marine context, where overfishing, plastic pollution, ocean acidification, and climate-driven ecosystem degradation are cumulatively impoverishing the marine environment that future generations will inherit.

The tradition of development ethics associated with the Pakistani economist Mahbub ul-Haq, who conceived and developed the Human Development Index and the human development approach to development policy, provides a complementary framework particularly relevant to Bangladesh's context. Ul-Haq's human development approach emphasised that the objective of development is to expand human freedoms and capabilities, not merely to increase GDP or resource extraction. Applied to marine environmental governance, this approach demands that the exploitation of marine resources be evaluated not by its contribution to national income alone but by its contribution to the freedoms and capabilities of present and future people, particularly the most vulnerable. A fisheries policy that maximises short-term catch at the expense of stock sustainability fails the human development test because it expands the short-term income of commercial fishing enterprises while undermining the long-term capacity of coastal communities to sustain their livelihoods.

For Bangladesh, the intergenerational dimension of marine environmental governance takes on a particular urgency because of the profound inequality between the responsibilities of climate-change causing states and the consequences borne by climate-vulnerable states. Bangladesh's contribution to global greenhouse gas emissions is minimal compared to its share of the consequences of climate-driven marine environmental change. The moral and legal problem of climate justice in the marine context is therefore simultaneously a problem of intergenerational justice and a problem of international distributive justice: not only are future generations being wronged by present emissions, but the present generation of people in countries like Bangladesh is being wronged by the emissions of richer, more powerful states. The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion, by confirming that these emissions constitute marine pollution for which emitting states bear legal responsibility, have begun the process of translating this moral claim into enforceable legal obligations. But the translation is incomplete, and Part Fourteen of this commentary is substantially concerned with how Bangladesh can use the new legal framework most effectively.

CHAPTER 2: THE HISTORICAL EVOLUTION OF INTERNATIONAL MARINE ENVIRONMENTAL LAW AND ITS APPLICATION TO BANGLADESH

2.1 From Roman Law to MARPOL: A History of Progressive Recognition

The history of international marine environmental law is a history of progressive recognition, of a gradual and often reluctant acknowledgment by states that the ocean is not an unlimited sink for waste and pollution, that its resources are exhaustible, and that its ecological integrity is a public good that requires affirmative governance. This history has important implications for understanding the current state of the law and the direction of its development.

The earliest formal international instruments addressing marine environmental protection were concerned with specific, readily visible forms of pollution rather than with the comprehensive governance of the marine ecosystem. The Convention for the Regulation of Whaling of 1931 and the International Convention for the Regulation of Whaling of 1946 established the International Whaling Commission and imposed restrictions on whaling, but their primary motivation was the conservation of whales as a commercial resource rather than the protection of the marine ecosystem as such. The 1954 International Convention for the Prevention of Pollution of the Sea by Oil, adopted in the aftermath of the growing concern about oil tanker pollution in the post-war period, was the first multilateral instrument specifically directed at marine pollution, but it was limited in scope, covering only operational discharges from oil tankers and not addressing accidental spills or other sources of pollution.

The oil tanker disasters of the 1960s and 1970s, particularly the grounding of the Torrey Canyon in 1967 and the Amoco Cadiz in 1978, galvanised public opinion and political will in ways that accelerated the development of international marine pollution law. The International Convention for the Prevention of Pollution from Ships, known as MARPOL, was adopted in 1973 and supplemented by a protocol in 1978, creating a comprehensive framework for the prevention of oil pollution, noxious liquid substances, harmful substances in packaged form, sewage, garbage, and air pollution from ships. MARPOL has been amended and supplemented numerous times since its original adoption, and it remains the principal international instrument governing vessel-source pollution.

For Bangladesh, MARPOL is a significant international obligation. Bangladesh is a party to MARPOL, and its port authorities, coast guard, and environmental regulatory agencies are responsible for the implementation and enforcement of MARPOL standards in Bangladesh's ports and maritime zones. The practical implementation of MARPOL in Bangladesh has been uneven, reflecting the constraints of limited institutional capacity and the competing priorities of port development and economic growth. The challenge of implementing MARPOL requirements, particularly in relation to the reception facilities for ship-generated waste that MARPOL requires flag states to ensure are available in their ports, has been a persistent issue in Bangladesh's maritime governance.

The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, known as the London Convention, and its 1996 Protocol, known as the London Protocol, established a comprehensive framework for the regulation of deliberate disposal of wastes at sea. The London Protocol adopts a precautionary approach, listing the substances that may be dumped and prohibiting all others, rather than the original London Convention's approach of listing prohibited substances. Bangladesh is not a party to the London Protocol, a gap in its international environmental obligations that a comprehensive maritime law reform should address.

The Biological Diversity Convention, adopted at the 1992 Rio Summit, established obligations for the conservation of marine biodiversity that are complementary to and broader than the fisheries conservation obligations of UNCLOS. The 1995 Jakarta Mandate on Marine and Coastal Biodiversity provided further elaboration of states' obligations under the CBD in the marine context. Bangladesh is a party to the CBD and has developed a National Biodiversity Strategy and Action Plan, but the integration of CBD obligations into Bangladesh's domestic maritime legal framework is incomplete.

The Regional Seas Programme of UNEP, established in 1974, has produced a series of regional conventions and action plans for the protection of specific regional marine environments. The South Asian Seas Action Plan, which covers the Bay of Bengal among other sea areas of South Asia, is relevant to Bangladesh. However, the South Asian Seas framework is significantly less developed than comparable regional sea frameworks in other parts of the world, reflecting the relatively limited political will for environmental cooperation among the states of the region and the competing priorities of development and economic growth.

2.2 The UNCLOS Environmental Framework: Comprehensiveness and its Limits

The adoption of UNCLOS in 1982 represented the most comprehensive codification of international marine environmental law that had been achieved to that point. Part XII of UNCLOS, on the Protection and Preservation of the Marine Environment, contains forty-six articles that establish a framework of environmental obligations applicable to all states in relation to all maritime spaces. This framework is widely regarded as the constitutional backbone of international marine environmental governance.

The key provisions of Part XII relevant to Bangladesh's obligations deserve careful examination. Article 192, the foundational provision, states simply that states have the obligation to protect and preserve the marine environment. This brief statement conceals an enormous jurisprudential depth, as the 2024 ITLOS Advisory Opinion demonstrates. The obligation is not merely negative, a duty to refrain from acts that harm the marine environment; it is positive, a duty to take active measures to protect and preserve. The Advisory Opinion confirms that this positive obligation encompasses the duty to prevent, reduce, and control all forms of marine pollution, including pollution from greenhouse gas emissions.

Article 194 requires states to take, individually or jointly as appropriate, all measures consistent with the Convention that are necessary to prevent, reduce, and control pollution of the marine environment from any source. The phrase "all measures" is significant: it indicates that the

obligation is not merely to take some measures or adequate measures but to take all necessary measures, subject to the qualification that they must be consistent with UNCLOS. The Advisory Opinion interprets this obligation as requiring states to deploy best available technology and best environmental practices in the implementation of their pollution prevention obligations.

Article 196 addresses the introduction of alien or new species and requires states to take all measures necessary to prevent, reduce, and control the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment which may cause significant and harmful changes thereto. This provision is relevant to Bangladesh in the context of ballast water management, aquaculture practices, and the regulation of marine biological research activities.

Article 197 requires states to cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards, and recommended practices and procedures for the protection and preservation of the marine environment. This cooperative obligation is fundamental to Bangladesh's participation in international marine environmental governance processes, including the ITLOS advisory opinion proceedings, the BBNJ Agreement negotiations, and the regional seas framework of the Bay of Bengal.

Article 204 requires states to observe, measure, evaluate, and analyse the risks or effects of pollution of the marine environment, and to publish or provide to competent international organisations reports of the results obtained by such measures. This monitoring and reporting obligation is particularly important in the context of climate change impacts, where systematic observation of ocean temperature, acidity, sea level, and biodiversity is essential for understanding the scope and pace of change and for informing appropriate regulatory responses. Bangladesh's current capacity for systematic marine environmental monitoring is inadequate, and this is a dimension of the reform agenda that is discussed in detail below.

The limits of the UNCLOS environmental framework are as important as its comprehensiveness. UNCLOS was adopted at a time when the scientific understanding of climate change was in its infancy and the concept of greenhouse gas emissions as a source of marine pollution had not been articulated. The Convention therefore does not contain any explicit reference to climate change, greenhouse gases, or the specific obligations of states in relation to the climate-ocean nexus. The 2024 ITLOS Advisory Opinion has addressed this gap through dynamic interpretation, reading the Convention's pollution definition and environmental protection obligations in light of contemporary scientific understanding, but this interpretive exercise has not resolved all of the questions that arise from the intersection of climate law and the law of the sea.

The framework also has significant gaps in relation to land-based sources of marine pollution, which are addressed in Article 207 of UNCLOS but in very general terms that have not been effectively implemented through specific international instruments. Land-based pollution is the dominant source of marine pollution globally, including in the Bay of Bengal, where sewage, agricultural runoff, industrial effluents, and solid waste from coastal settlements are the principal sources of coastal and marine pollution. Bangladesh's coastal and marine environment is severely

affected by land-based pollution, and the weakness of the international legal framework in this area reflects the political difficulty of subjecting domestic development activities to internationally mandated environmental standards.

2.3 The MARPOL Framework and Bangladesh: Obligations, Compliance, and Enforcement Gaps

Bangladesh's obligations under MARPOL are extensive and cover all of the instrument's six annexes, which address respectively oil pollution from ships, noxious liquid substances, harmful substances in packaged form, sewage, garbage, and air pollution from ships. The implementation of these obligations requires a domestic legislative framework that incorporates MARPOL standards into national law, a port state control regime that inspects foreign vessels calling at Bangladeshi ports for compliance with MARPOL requirements, a flag state control regime that ensures compliance by Bangladeshi-flagged vessels with MARPOL requirements in all waters, and reception facilities at Bangladesh's ports capable of receiving the wastes that MARPOL prohibits from discharge at sea.

The assessment of Bangladesh's compliance with these obligations is not straightforward, because systematic data on the incidence of MARPOL violations in Bangladeshi waters, on the results of port state control inspections, and on the availability of adequate reception facilities is not comprehensively compiled or publicly reported. What is clear from the available evidence and from the literature on maritime governance in Bangladesh is that implementation and enforcement are uneven, that port state control capacity is limited, and that the reception facilities at Chittagong and Mongla ports, while they exist, may not be adequate for the volume and character of waste generated by the vessels using these facilities.

The governance of ship-breaking in Bangladesh is a particular area of concern in the MARPOL context. Bangladesh is one of the world's principal ship-breaking countries, with the Sitakunda coast near Chittagong housing one of the largest and most active ship-breaking industries in the world. Ship-breaking involves the dismantling of end-of-life vessels, which can contain hazardous materials including asbestos, polychlorinated biphenyls, heavy metals, and residual oil and fuel. The environmental and health impacts of ship-breaking in Bangladesh are severe: pollutants from ship-breaking activities have contaminated the intertidal zone and coastal waters near Sitakunda, causing measurable harm to marine ecosystems and to the health of workers and communities. The governance of ship-breaking in Bangladesh involves an intersection of maritime law, environmental law, occupational health and safety law, and labour law that the current legal framework does not adequately address.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, adopted in 2009 and entered into force in June 2025, establishes international standards for ship recycling that are directly relevant to Bangladesh's ship-breaking industry. Bangladesh is not a party to the Hong Kong Convention, and its ratification and implementation should be a priority of the maritime law reform agenda. The Convention requires ship recycling facilities to maintain Ship Recycling Facility Plans that address the safe and environmentally sound management of all materials on board, and it establishes an internationally verifiable regime of environmental auditing and compliance. The adoption of the Hong Kong Convention's standards

in Bangladesh's ship-breaking sector would not only improve environmental and occupational health outcomes but would enhance Bangladesh's reputation as a responsible maritime state and potentially improve the sector's access to international markets for recycled metals.

2.4 Regional Marine Environmental Cooperation: The Bay of Bengal Framework

The Bay of Bengal presents unique environmental governance challenges that require regional cooperation. It is a semi-enclosed sea, geographically configured in a way that makes it susceptible to the accumulation of pollution from the rivers and coasts of all the littoral states, and the environmental health of the Bay is a shared interest of Bangladesh, India, Myanmar, Thailand, Sri Lanka, and Malaysia. Yet the regional framework for marine environmental cooperation in the Bay of Bengal is less developed than in many comparable sea areas.

The South Asian Cooperative Environment Programme, known as SACEP, is the principal intergovernmental body for environmental cooperation in South Asia, and it administers the South Asian Seas Action Plan. SACEP's mandate covers marine environmental protection, coastal zone management, and marine biodiversity conservation, among other subjects. However, SACEP's institutional capacity and financial resources are limited, its membership does not include all of the Bay of Bengal's littoral states (Thailand and Malaysia are not SACEP members), and the implementation of its action plans has been patchy.

The BIMSTEC framework, discussed in earlier parts of this commentary, provides an alternative and potentially more effective vehicle for regional marine environmental cooperation. The BIMSTEC Agreement on Maritime Transport Cooperation ratified in 2025 establishes a framework for regional maritime governance that includes environmental dimensions. The development of a BIMSTEC marine environmental action plan, building on the foundation of the AMTC and drawing on the obligations established by the 2024 and 2025 advisory opinions and the BBNJ Agreement, is an important objective for Bangladesh's regional environmental diplomacy.

The problem of marine plastic pollution in the Bay of Bengal deserves particular attention. Plastic debris, including both large plastic items and microplastics derived from the breakdown of plastic waste, is a severe and growing problem in the Bay of Bengal. The rivers of Bangladesh, India, and Myanmar discharge enormous quantities of plastic waste into the Bay, and the problem is compounded by littering from fishing vessels and coastal communities. The impacts of marine plastic pollution on marine wildlife, on fisheries, and on coastal tourism are significant, and the social and environmental costs are borne disproportionately by coastal communities that have contributed least to the problem.

The Intergovernmental Negotiating Committee on Plastic Pollution, established by the UN Environment Assembly in 2022, is negotiating a global plastics treaty that would address marine plastic pollution as a priority concern. Bangladesh has participated in these negotiations, and a comprehensive global plastics treaty would significantly strengthen the international legal framework for addressing one of the most visible and damaging forms of marine pollution in the Bay of Bengal. The integration of the future plastics treaty's obligations into Bangladesh's

domestic legal framework will require legislative and regulatory action that the current maritime legal architecture is not prepared for.

CHAPTER 3: THE 2024 ITLOS ADVISORY OPINION: JURISPRUDENTIAL ANALYSIS AND IMPLICATIONS FOR BANGLADESH

3.1 The Jurisprudential Architecture of the Advisory Opinion

The Advisory Opinion delivered by ITLOS on 21 May 2024, in response to the request of the Commission of Small Island States on Climate Change and International Law (COSIS), is a document of extraordinary jurisprudential richness and practical significance. At 153 pages in length, it is the longest opinion in ITLOS's history, and it addresses a range of issues that go far beyond the specific questions posed by COSIS to engage with the fundamental architecture of states' environmental obligations under UNCLOS and under general international law.

The Tribunal's approach to the interpretation of UNCLOS in the Advisory Opinion reflects a sophisticated engagement with the principles of treaty interpretation established by the Vienna Convention on the Law of Treaties. The Tribunal adopts what might be described as a teleological and contextual approach to interpretation, reading UNCLOS's environmental provisions in light of the treaty's object and purpose as a whole, which the Tribunal identifies as the establishment of a legal order for the sea and ocean that facilitates international communication and promotes the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection, and preservation of the marine environment. This teleological reading allows the Tribunal to give expansive content to the Convention's environmental obligations in a manner that reflects the contemporary understanding of the threats to the marine environment, including threats from sources, such as greenhouse gas emissions, that were not specifically contemplated when the Convention was drafted.

The Tribunal's handling of the relationship between UNCLOS and the international climate change regime, particularly the Paris Agreement and its predecessors, is one of the most jurisprudentially significant aspects of the Advisory Opinion. The Tribunal holds that the obligations of states under Part XII of UNCLOS are separate from and additional to their obligations under the climate change regime. The Paris Agreement does not exhaust states' legal obligations in relation to climate change and the marine environment; states that have complied fully with their Paris Agreement nationally determined contributions may still be in breach of their UNCLOS obligations if those contributions do not meet the standard of all necessary measures required by Article 194. This is a jurisprudentially bold position, and it has significant implications for the relationship between the two treaty regimes.

The Tribunal's articulation of the standard of due diligence in the marine environmental context is particularly important for Bangladesh's understanding of its own obligations and of the obligations of major emitting states. The Tribunal holds that the standard of due diligence in implementing the obligation under Article 194 is stringent, reflecting the high risk of severe and

irreversible harm to the marine environment from anthropogenic GHG emissions. The Tribunal notes that the standard requires states to act with the level of care, prudence, and diligence expected of a good government seeking in good faith to protect and preserve the marine environment, and that this standard is higher for activities that pose greater risk of harm.

The Advisory Opinion also addresses a range of specific obligations that derive from the general duty under Article 194. States must conduct environmental impact assessments before authorising activities that may cause significant harm to the marine environment through GHG emissions. States must monitor and publish reports on the environmental impacts of activities they authorise. States must cooperate with other states and with international organisations in the implementation of their environmental obligations. And states must provide technical assistance to developing states, particularly vulnerable developing states, in meeting their marine environmental obligations. This last obligation is directly relevant to Bangladesh's claim to technical and financial assistance from developed states in implementing its own due diligence obligations.

3.2 The Definition of Marine Pollution Under Article 1(1)(4) and its Revolutionary Implications

The definitional holding of the Advisory Opinion, that anthropogenic greenhouse gas emissions constitute pollution of the marine environment within the meaning of Article 1(1)(4) of UNCLOS, is the most jurisprudentially revolutionary aspect of the Opinion and the one with the most far-reaching implications. Article 1(1)(4) defines marine pollution as the introduction by humans, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities including fishing and other legitimate uses of the sea, impairment of quality for use of sea water, and reduction of amenities.

The Tribunal's reasoning in reaching the conclusion that GHG emissions fall within this definition is meticulous and legally persuasive. GHG emissions introduced into the atmosphere are indirectly introduced into the marine environment through the processes of ocean warming and acidification: the oceans absorb approximately 90% of the excess heat generated by the enhanced greenhouse effect, and they absorb approximately 26% of anthropogenic CO2, which dissolves to form carbonic acid and reduces ocean pH. These processes produce precisely the deleterious effects described in Article 1(1)(4): harm to living resources and marine life (through ocean warming, acidification, and changes in circulation patterns), hazards to human health (through the effects of coastal flooding and sea-level rise on food and water security), hindrance to marine activities including fishing (through changes in fish stock distribution and abundance), and impairment of sea water quality (through acidification and deoxygenation). The chain of causation from atmospheric GHG emissions to marine environmental harm is scientifically established, and the Tribunal holds that this chain is sufficient to bring GHG emissions within the legal definition of marine pollution.

This definitional holding has extraordinary implications. It means that the entire body of UNCLOS's pollution prevention obligations, including the requirements of environmental impact

assessment, monitoring, reporting, and cooperation, as well as the enforcement provisions of Part XII, are applicable to GHG emissions. It also means that the UNCLOS dispute settlement mechanism is potentially available for disputes about states' compliance with their anti-pollution obligations in relation to GHG emissions, a development of enormous strategic significance for climate-vulnerable states like Bangladesh.

The implications of the Advisory Opinion for Bangladesh's legal strategy in relation to climate change are profound. Bangladesh could, in principle, initiate UNCLOS dispute settlement proceedings against major emitting states for breach of their obligations under Part XII to take all necessary measures to prevent, reduce, and control marine pollution from GHG emissions. The practical and strategic dimensions of such a claim are complex, as discussed below, but the legal foundation, confirmed by the highest specialised tribunal in the law of the sea, is now established.

3.3 The Specific Obligations Articulated by the Advisory Opinion

Beyond the foundational definitional holding, the Advisory Opinion articulates a series of specific obligations that UNCLOS imposes on states in relation to GHG emissions and marine environmental protection. A careful examination of these specific obligations is essential for understanding what Bangladesh is required to do domestically and what it can demand of other states internationally.

The obligation to use best available technology and best environmental practices in implementing Article 194's requirements is among the most demanding of the specific obligations articulated in the Advisory Opinion. The concept of best available technology (BAT) is familiar from national and EU environmental law, where it is used to establish the technological standard that regulated industries must meet. The Advisory Opinion's use of BAT in the international maritime environmental context represents a significant escalation of the standard of environmental governance required of states: it means that states cannot justify inadequate measures by reference to cost or convenience if better technological solutions are available.

The obligation to conduct environmental impact assessments (EIA) before authorising activities that may cause significant harm to the marine environment through GHG emissions is a particularly significant development for Bangladesh. The EIA requirement, which is also central to the BBNJ Agreement (discussed below), requires states to systematically assess the marine environmental consequences of major development activities, including industrial projects, energy infrastructure, and large-scale land use changes, before granting authorisation. Bangladesh has a domestic EIA system, governed by the Environment Conservation Act of 1995 and its implementing regulations, but this system does not currently address marine environmental impacts from GHG emissions, and its integration with maritime law is incomplete. A comprehensive maritime law reform must address this gap.

The obligation to assist developing states in their efforts to address marine pollution from anthropogenic GHG emissions, through technical, technological, financial, and capacity-building assistance, is articulated in the Advisory Opinion as a specific obligation of developed states

rather than merely a general principle of international cooperation. This obligation has direct implications for Bangladesh's demands in international climate negotiations and in its bilateral engagements with major emitting developed states. Bangladesh can now invoke, with the authority of a unanimous ITLOS Advisory Opinion, the legal obligation of developed states to provide it with the technical and financial assistance necessary to implement its own due diligence obligations in relation to marine pollution from GHG emissions.

The monitoring and reporting obligation articulated in the Advisory Opinion requires states to publish reports on the activities they permit and to make information available to other states and to the international community about the marine environmental impacts of their authorised activities. This obligation builds on the transparency requirements of UNCLOS Article 204 and extends them to the specific context of GHG emissions monitoring. For Bangladesh, this obligation requires investment in systematic marine environmental monitoring capacity, including ocean temperature monitoring, ocean chemistry monitoring, sea-level monitoring, and marine biodiversity monitoring, all of which are currently underdeveloped.

3.4 The Advisory Opinion and the Obligations of Major Emitting States: Strategic Implications for Bangladesh

The strategic dimensions of the Advisory Opinion for Bangladesh's international legal position deserve careful analysis. The Opinion confirms that major emitting states are in breach of their UNCLOS obligations to the extent that their GHG emissions cause marine pollution that they have not taken all necessary measures to prevent, reduce, and control. This conclusion creates a legal basis for Bangladesh to initiate, or to join, international legal proceedings against major emitting states under the UNCLOS dispute settlement mechanism.

The practical challenges of pursuing such proceedings are, however, substantial. UNCLOS's dispute settlement mechanism requires that disputes concern the interpretation or application of the Convention, that the parties have attempted to resolve the dispute by negotiation, and that the respondent state has not excluded the relevant category of dispute under Article 298. Major emitting states including China, India, Russia, and the United States (which is not a party to UNCLOS) have various objections and exclusions in place that may limit the availability of UNCLOS proceedings. The litigation of a climate change case under UNCLOS would be technically demanding, requiring extensive scientific expert evidence on the attribution of specific marine environmental harms to specific states' emissions, and would take many years to resolve.

Nevertheless, the Advisory Opinion significantly strengthens Bangladesh's legal position in international climate negotiations. The confirmation that GHG emissions constitute marine pollution under UNCLOS provides Bangladesh with additional leverage in demanding ambitious emissions reductions from major emitters, in arguing for compensation and reparations for climate-related marine harms, and in insisting on the adequacy of the technical and financial assistance provided by developed states. Bangladesh was part of the core group of countries that tabled the UN General Assembly resolution requesting the ICJ Advisory Opinion on climate change obligations, and its active leadership in the climate justice diplomacy movement is now backed by a stronger legal framework than existed before the ITLOS and ICJ opinions.

The interaction between the ITLOS Advisory Opinion and the Paris Agreement regime is also of strategic significance. The Advisory Opinion's holding that UNCLOS obligations are additional to and not exhausted by Paris Agreement obligations means that the adequacy of states' nationally determined contributions under the Paris Agreement is not a complete defence to a claim of breach of UNCLOS obligations. States that have set insufficiently ambitious NDCs, or that are failing to implement their NDCs in practice, cannot escape UNCLOS liability by reference to their Paris Agreement compliance. This layering of legal obligations strengthens the overall architecture of international climate law and provides Bangladesh with additional tools for holding major emitters to account.

CHAPTER 4: THE 2025 ICJ ADVISORY OPINION: DEEPENING THE JURISPRUDENTIAL REVOLUTION

4.1 From ITLOS to the ICJ: The Judicial Dialogue on Climate and the Ocean

The Advisory Opinion delivered by the International Court of Justice on 23 July 2025, in response to a request by the United Nations General Assembly, represents the culmination of a remarkable judicial dialogue on climate obligations that proceeded across three international forums in the period 2024 to 2025. The ITLOS Advisory Opinion of May 2024, the Inter-American Court of Human Rights Advisory Opinion of July 2025, and the ICJ Advisory Opinion of July 2025 together constitute what can now be characterised as a coherent jurisprudential consensus on the content and scope of states' legal obligations in relation to climate change, grounded in three distinct bodies of international law: the law of the sea, international human rights law, and general international law.

The ICJ Advisory Opinion's engagement with the law of the sea is particularly significant for the purposes of this commentary. The Court expressly stated that UNCLOS forms part of the most directly relevant applicable law for the interpretation of states' climate obligations, and it ascribed great weight to the interpretation of UNCLOS adopted by ITLOS in its 2024 Advisory Opinion. The Court affirmed ITLOS's central findings, including the holding that GHG emissions constitute marine pollution under UNCLOS Article 1(1)(4) and the holding that states have stringent due diligence obligations under Part XII to prevent, reduce, and control such pollution. By integrating these findings into the broader framework of general international law, the ICJ has given them a normative weight and universality that extends beyond the specific context of UNCLOS obligations.

The ICJ Advisory Opinion also addressed the question of sea-level rise and maritime entitlements, a question that ITLOS had declined to opine on in its 2024 Opinion. The Court's conclusion that climate change must not undermine the maritime entitlements of states, and that baselines and maritime zones should be regarded as fixed notwithstanding sea-level rise, is of particular importance for Bangladesh. As a low-lying deltaic state with a highly dynamic coastline, Bangladesh faces the risk that continued sea-level rise will erode the low-water baseline from which its territorial sea and other maritime zones are measured, potentially reducing its maritime entitlements as the baseline retreats inland. The ICJ's opinion, building on

arguments advanced by small island developing states, affirms that this outcome would be unjust and that the principle of equitable protection of states' maritime entitlements should prevent it.

This holding is jurisprudentially complex and somewhat novel. The ordinary reading of UNCLOS Article 5, which measures the territorial sea from the low-water line, and the practice of states under UNCLOS in defining their baselines, would suggest that baselines do change as coastlines change, and that maritime entitlements consequently fluctuate. The ICJ's suggestion that climate change requires a different approach, in which baselines are fixed at their current positions or the positions they would have occupied absent climate change, represents a significant departure from the textual framework of UNCLOS and from the established practice of states. Whether this suggestion will be translated into binding legal rules through treaty amendment, state practice, or further judicial development remains to be seen, but Bangladesh, as a state with a major stake in the stability of its maritime entitlements, should be actively engaged in the process of elaborating and implementing this principle.

4.2 Erga Omnes Obligations and State Responsibility for Climate Marine Pollution

The ICJ Advisory Opinion's treatment of obligations erga omnes in the climate context is of fundamental jurisprudential importance. The concept of obligations erga omnes was introduced by the ICJ in its 1970 Barcelona Traction judgment, in which the Court distinguished between obligations owed by a state to specific other states and obligations owed by a state to the international community as a whole. Obligations erga omnes are owed to all states, and all states have a legal interest in their performance: any state can seek to have them enforced, regardless of whether that state has suffered particular damage from their breach.

The ICJ Advisory Opinion of 2025 affirms that states' obligations to protect the climate system and to prevent marine environmental damage from GHG emissions have erga omnes character. This means that Bangladesh, and every other state, has a legal interest in the performance of these obligations by every other state, and has standing to raise the breach of these obligations before international judicial bodies. The erga omnes characterisation of climate obligations represents a significant strengthening of the legal architecture of climate accountability, because it overcomes the traditional obstacle of standing in international environmental litigation: the difficulty of demonstrating that a particular state has suffered particular damage sufficient to give it legal standing to bring a claim.

The doctrine of state responsibility, as elaborated in the International Law Commission's Articles on Responsibility of States for Internationally Wrongful Acts of 2001, provides the framework for the legal consequences of the breach of erga omnes climate obligations. A state that fails to meet its due diligence obligations to prevent marine pollution from GHG emissions commits an internationally wrongful act for which it bears state responsibility. The legal consequences of state responsibility include the obligation to cease the wrongful act, the obligation to offer appropriate assurances of non-repetition, and the obligation to make full reparation for the injury caused. The concept of reparation in the climate context is particularly complex, because the causal chain between any individual state's emissions and the specific harms suffered by any individual state or community is scientifically contested and legally difficult to establish. But the

framework of state responsibility provides at least a theoretical basis for claims of reparation that Bangladesh and other climate-vulnerable developing states can and should pursue.

The ILC's current work on sea-level rise and international law, which is expected to produce a set of recommendations or draft conclusions in the period 2026 to 2028, will further elaborate the intersection of state responsibility, UNCLOS, and climate change. Bangladesh has been actively participating in the ILC's work in this area and should continue to do so, given its direct and urgent stake in the legal clarity that the ILC's conclusions will provide.

4.3 The Human Rights Dimension: Marine Environmental Rights and Bangladesh

The integration of human rights law with the law of the sea in the context of climate change, articulated in the 2025 ICJ Advisory Opinion and foreshadowed in the Inter-American Court's Advisory Opinion, has important implications for Bangladesh's legal framework. The Court confirms that a state's failure to protect the marine environment from climate change impacts constitutes not only a breach of UNCLOS but potentially a violation of human rights obligations, because a healthy marine environment is a precondition for the enjoyment of many fundamental human rights, including the right to life, the right to health, the right to an adequate standard of living, and the rights of indigenous and traditional communities to their cultures and livelihoods.

Bangladesh's Constitution guarantees a range of fundamental rights, including the right to life under Article 32, that have been interpreted by the courts as encompassing the right to a healthy environment. The Supreme Court of Bangladesh, in a series of environmental public interest litigation cases, has affirmed that the constitutional right to life extends to the right to a healthy environment and has issued orders directing government agencies to take measures to protect environmental quality. The integration of this constitutional jurisprudence with the international framework of maritime environmental obligations confirmed by the ITLOS and ICJ Advisory Opinions would create a powerful domestic legal basis for environmental litigation concerning the marine environment.

The legal architecture of a human rights-based approach to marine environmental governance in Bangladesh would require, at minimum, the recognition in domestic law of the right to a healthy marine environment, the establishment of legal standing for affected communities to enforce this right before national courts, and the creation of effective domestic remedies for the violation of marine environmental rights. The existing legal framework does not fully provide these elements, and their establishment would require legislative action as well as judicial development.

The specifically gendered dimensions of marine environmental human rights deserve attention in Bangladesh's context. Women in coastal fishing communities are affected by marine environmental degradation in distinctive ways: they are responsible for household food security and are therefore disproportionately affected by the loss of fish stocks; they manage household finances and are therefore disproportionately affected by the economic impacts of cyclones and flooding; and they have fewer formal legal rights in relation to land, fishing licences, and resource access, and are therefore less able to adapt to environmental change through the formal

economy. A human rights-based approach to marine environmental governance in Bangladesh must address these gendered dimensions if it is to be truly inclusive and effective.

CHAPTER 5: THE BBNJ AGREEMENT: ARCHITECTURE, IMPLICATIONS, AND BANGLADESH'S ENGAGEMENT

5.1 The Entry into Force: A New Era in High Seas Governance

The entry into force of the BBNJ Agreement on 17 January 2026, following the deposit of Morocco's ratification as the 60th party on 19 September 2025, represents the most significant development in the architecture of international marine governance since the entry into force of UNCLOS in 1994. The Agreement, formally designated as the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, establishes for the first time a comprehensive legal framework for the governance of marine biodiversity in the high seas and the Area, which together cover approximately two-thirds of the ocean's surface and 95% of its volume.

The BBNJ Agreement is the third implementing agreement to UNCLOS, following the 1994 Agreement on the Implementation of Part XI on deep seabed mining and the 1995 UN Fish Stocks Agreement on highly migratory and straddling fish stocks. Its adoption after nearly two decades of negotiations and its entry into force within just over two years of its adoption are remarkable achievements of multilateral diplomacy, reflecting the urgency of the biodiversity crisis and the growing political will for comprehensive ocean governance. As of 17 January 2026, the Agreement has 83 parties and 145 signatories, indicating broad international support even before universal ratification is achieved.

The Agreement's four substantive pillars are marine genetic resources (MGRs) including benefit-sharing, area-based management tools (ABMTs) including marine protected areas, environmental impact assessments (EIAs), and capacity-building and the transfer of marine technology. Each of these pillars has direct implications for Bangladesh's maritime legal framework and for its practical engagement with the governance of the Bay of Bengal and the adjacent high seas.

For Bangladesh, the entry into force of the BBNJ Agreement creates both new obligations and new opportunities. As a developing coastal state with significant interests in the equitable sharing of benefits from the exploitation of marine genetic resources, Bangladesh has a strong stake in the effective implementation of the Agreement's benefit-sharing provisions. As a state with limited scientific research capacity but growing interest in marine biotechnology and the development of the blue economy, Bangladesh stands to benefit from the Agreement's capacity-building and technology transfer provisions. And as a state with a profound interest in the protection and preservation of the marine environment of the Bay of Bengal and adjacent high seas areas, Bangladesh has a strong interest in the effective implementation of the Agreement's area-based management and EIA provisions.

5.2 Marine Genetic Resources and Benefit-Sharing: The Common Heritage Controversy

The most contentious issue in the BBNJ Agreement negotiations was whether the common heritage of mankind principle should apply to marine genetic resources (MGRs) found in areas beyond national jurisdiction. MGRs are biological materials found in marine organisms that have genetic information of actual or potential value for pharmaceutical, agricultural, industrial, or scientific applications. Marine organisms from the deep sea, the high seas water column, and the hydrothermal vent ecosystems of the Area have proven to be extraordinarily rich sources of novel genetic material, and the commercial potential of this material is enormous: marine-derived natural compounds have been estimated to represent a multi-billion dollar market in pharmaceuticals and other products.

The dispute between developing countries, including Bangladesh and the G77, which argued that the common heritage principle should apply to MGRs and ensure their equitable sharing, and developed countries, including the United States, the European Union, Japan, and South Korea, which argued that MGRs should be governed by the freedom of the seas principle and be freely accessible to all, was the central political conflict in the BBNJ negotiations. The compromise reached in the Agreement adopts a modified version of the common heritage framework: it does not declare MGRs to be common heritage, but it establishes a system of access and benefit-sharing that requires entities accessing MGRs from areas beyond national jurisdiction to share monetary and non-monetary benefits with an international fund, and it establishes this fund for the benefit of all parties, with special attention to developing states.

The jurisprudential significance of this compromise deserves careful analysis. The common heritage of mankind principle, as embodied in UNCLOS Part XI in relation to deep seabed minerals, represents one of the most ambitious attempts in the history of international law to establish a framework of genuine global distributive justice, as opposed to a framework that merely permits state sovereignty over resources. The diluted version adopted in the BBNJ Agreement does not fully achieve this ambition, but it establishes a precedent for the benefit-sharing of marine genetic resources that may develop over time through practice and interpretation.

For Bangladesh, the benefit-sharing framework of the BBNJ Agreement is strategically important because it provides a formal mechanism through which Bangladesh can claim a share of the benefits from the exploitation of genetic resources found in the high seas adjacent to its EEZ, resources that Bangladesh currently lacks the scientific and technological capacity to exploit directly. The access and benefit-sharing committee established by the Agreement will be the key institutional forum for the elaboration of the specific benefit-sharing rules, and Bangladesh should be actively and strategically engaged in this committee's work.

The domestic legal implications of the BBNJ Agreement's MGR provisions are significant. Bangladesh will need to establish domestic legal procedures for the collection, cataloguing, and submission of information on MGR activities conducted by Bangladeshi entities in areas beyond national jurisdiction, for the reporting of benefits derived from such activities, and for the equitable distribution of received benefits. These domestic procedures will require legislative

action, and the development of the necessary legislation should be undertaken in parallel with Bangladesh's ratification of the BBNJ Agreement.

Bangladesh has not yet ratified the BBNJ Agreement, and the timeline for its ratification is not publicly established. Given the strategic importance of the Agreement for Bangladesh's interests in the governance of marine genetic resources, in the protection of marine biodiversity adjacent to its EEZ, and in access to capacity-building and technology transfer, the expeditious ratification and implementation of the BBNJ Agreement should be a priority of Bangladesh's maritime law reform agenda.

5.3 Area-Based Management Tools and Marine Protected Areas: Governance of the High Seas

Part III of the BBNJ Agreement addresses area-based management tools, including marine protected areas, in areas beyond national jurisdiction. This part of the Agreement establishes, for the first time, a comprehensive legal framework for the designation and management of marine protected areas on the high seas, an activity that had previously been undertaken on an ad hoc basis through regional fisheries management organisations and other sector-specific bodies without a comprehensive overarching legal basis.

The establishment of marine protected areas on the high seas is directly relevant to Bangladesh's maritime interests in several respects. The high seas of the Bay of Bengal, the areas of the Bay beyond the 200-mile limits of the littoral states' EEZs, are part of the marine environment that supports the marine ecosystems and fisheries of the entire Bay, including Bangladesh's EEZ fisheries. The protection of critical habitats in the high seas, including spawning grounds, migration corridors, and deep-sea ecosystems, is essential for the health of the entire Bay of Bengal marine ecosystem. A marine protected area designation on the high seas of the Bay of Bengal, developed cooperatively by the Bay's littoral states through the BBNJ Agreement framework, would be a significant contribution to the long-term ecological health of the Bay and to the sustainable governance of its fisheries resources.

The governance structure of the BBNJ Agreement's area-based management framework creates opportunities for Bangladesh to champion the designation of marine protected areas in the Bay of Bengal. The Agreement establishes a process by which any party may submit a proposal for the designation of an ABMT in areas beyond national jurisdiction, and the Conference of the Parties reviews and decides on such proposals. Bangladesh, as a Bay of Bengal state with a strong interest in the protection of the Bay's marine ecosystems, could develop and submit proposals for ABMT designations in the Bay of Bengal high seas, building on scientific assessments of the key habitats and biodiversity features of the area.

The interaction between the BBNJ Agreement's ABMT framework and the existing regional fisheries management framework in the Bay of Bengal is a significant governance question. The Indian Ocean Tuna Commission (IOTC) and other regional fisheries bodies exercise jurisdiction over fisheries in the Bay of Bengal high seas, and the development of BBNJ Agreement ABMTs in the same area will require careful coordination to avoid conflicts between different governance regimes. Bangladesh's active engagement in both the BBNJ Agreement and the

regional fisheries governance frameworks is essential for ensuring coherent and effective governance of the Bay of Bengal high seas.

5.4 Environmental Impact Assessment Under the BBNJ Agreement: Standards and Procedures

Part IV of the BBNJ Agreement establishes a global framework for environmental impact assessments in areas beyond national jurisdiction. This framework requires parties to the Agreement to conduct EIAs when they determine that an activity under their jurisdiction or control may cause substantial pollution or significant and harmful changes to the marine environment in areas beyond national jurisdiction. The Agreement establishes standards for the content of EIAs, procedures for their review and public consultation, requirements for monitoring and reviewing the environmental impacts of authorised activities, and a clearing-house mechanism for sharing EIA reports and information.

The BBNJ Agreement's EIA framework is a significant development in the international law of marine environmental governance, because it establishes for the first time an internationally agreed standard for the assessment of activities on the high seas and in the Area. Previously, EIA requirements in areas beyond national jurisdiction were addressed only in sector-specific instruments and were not subject to any comprehensive international standard. The BBNJ Agreement's EIA framework, combined with the EIA obligations confirmed in the ITLOS and ICJ Advisory Opinions in the climate context, creates a comprehensive architecture of environmental impact assessment obligations that applies both in national maritime zones and in areas beyond national jurisdiction.

For Bangladesh, the BBNJ Agreement's EIA framework has both internal and external dimensions. Internally, Bangladesh will need to establish domestic procedures for assessing the marine environmental impacts of activities that Bangladeshi entities conduct in areas beyond national jurisdiction, particularly in relation to fishing activities by Bangladeshi vessels on the high seas and any marine genetic resource collection activities. Externally, Bangladesh can use the BBNJ Agreement's EIA framework to demand that other states conduct EIAs for activities in the high seas of the Bay of Bengal that may affect Bangladesh's EEZ marine environment, including fishing activities, shipping, and offshore energy development by vessels and entities subject to other states' jurisdiction.

The relationship between the BBNJ Agreement's EIA framework and Bangladesh's domestic EIA system requires careful legislative and regulatory development. Bangladesh's domestic EIA system, under the Environment Conservation Act and its regulations, was not designed to address activities in areas beyond national jurisdiction, and it will need to be amended or supplemented to give effect to Bangladesh's BBNJ Agreement obligations. This is a specific and technically tractable legislative task that should be prioritised in the maritime law reform agenda.

5.5 Capacity-Building and Technology Transfer: Bangladesh's Institutional Requirements

Part V of the BBNJ Agreement, on capacity-building and the transfer of marine technology, is in many respects the most immediately practical part of the Agreement for Bangladesh. It

establishes obligations for developed states parties to provide assistance to developing states parties in building the capacity necessary to implement the Agreement's obligations, and it establishes a committee to oversee the delivery of capacity-building and technology transfer.

Bangladesh's capacity gaps in relation to marine environmental governance are substantial. In the area of marine scientific research, Bangladesh lacks the oceanographic research vessels, the deep-sea monitoring equipment, the genomic sequencing facilities, and the trained scientific personnel necessary for comprehensive scientific engagement with the Bay of Bengal's marine environment. In the area of marine environmental monitoring, Bangladesh lacks the systematic observation networks that would be needed to track changes in ocean temperature, chemistry, sea level, and biodiversity in its maritime zones. In the area of marine environmental regulation, Bangladesh lacks the specialist technical expertise in its environmental agencies and ministries necessary for the rigorous assessment and enforcement of complex marine environmental standards.

The BBNJ Agreement's capacity-building framework provides a formal vehicle for Bangladesh to obtain technical and financial assistance from developed states to address these capacity gaps. The specific areas of capacity-building most relevant to Bangladesh include training in marine environmental monitoring and assessment, technical assistance for the establishment of marine protected areas and spatial planning systems, support for the development of domestic legislation implementing the BBNJ Agreement's obligations, and access to marine technology for oceanographic research and environmental monitoring.

The institutional architecture necessary for Bangladesh to engage effectively with the BBNJ Agreement's capacity-building framework includes a designated national focal point for the Agreement, an interministerial coordination mechanism for BBNJ Agreement implementation, and a national strategy for the use of capacity-building assistance received under the Agreement. The development of these institutional arrangements should be a priority of the maritime law reform process.

CHAPTER 6: THE ARCHITECTURE OF BANGLADESH'S DOMESTIC MARINE ENVIRONMENTAL LAW: A CRITICAL SURVEY

6.1 The Environment Conservation Act 1995 and its Marine Dimensions

Bangladesh's principal domestic environmental legislation is the Environment Conservation Act of 1995, which established the Department of Environment as the primary regulatory authority for environmental management in Bangladesh and created a framework of environmental standards, licensing requirements, and enforcement powers. The Act has been amended on several occasions and is supplemented by a range of subsidiary legislation, including the Environment Conservation Rules of 1997, which establish environmental quality standards, and various sector-specific regulations.

The Environment Conservation Act's coverage of the marine environment is significant but inadequate. The Act applies to the territorial sea and the EEZ of Bangladesh, in addition to the terrestrial environment, and it prohibits the discharge of pollutants into the marine environment without a licence from the Department of Environment. The Act also provides for the establishment of ecologically critical areas, which may include coastal and marine habitats, and the Sundarbans Mangrove Forest has been designated as an ecologically critical area under the Act.

However, the Act's marine environmental provisions suffer from several critical deficiencies. The definition of pollutants in the Act does not include greenhouse gas emissions, reflecting the state of domestic environmental law at the time of the Act's enactment and its subsequent amendments. The Act does not establish specific standards for the discharge of pollutants into the marine environment, relying instead on the general standards established in the Environment Conservation Rules, which are not specifically calibrated to the characteristics and sensitivities of the Bay of Bengal marine environment. The enforcement capacity of the Department of Environment for marine environmental violations is extremely limited, and the Department lacks the vessels, equipment, and personnel necessary for effective monitoring and enforcement in Bangladesh's maritime zones.

The relationship between the Environment Conservation Act and Bangladesh's maritime law, principally the Territorial Waters and Maritime Zones Act as amended in 2021, is not clearly defined, and there are areas of jurisdictional uncertainty between the two frameworks. A comprehensive maritime law reform should address this relationship explicitly, either by integrating marine environmental provisions into the maritime zones legislation or by establishing a clear division of jurisdiction between the two frameworks.

The Act also does not address the marine dimensions of Bangladesh's climate adaptation obligations. The National Adaptation Plan and the Nationally Determined Contribution submitted by Bangladesh under the Paris Agreement contain specific commitments in relation to coastal and marine ecosystem protection, but these commitments are not given legal force through the domestic environmental legislation. A comprehensive reform should establish a legal mechanism for translating Bangladesh's international climate commitments into enforceable domestic environmental standards.

6.2 The Marine Fisheries Ordinance 1983: An Anachronism in the Age of Ecosystem Management

The Marine Fisheries Ordinance of 1983, and its subsequent amendments, remains the principal domestic legislation governing the exploitation and conservation of Bangladesh's marine fisheries resources. This legislation was enacted in the context of the UNCLOS framework that had just been adopted in 1982, and it established the basic elements of a fisheries management system, including provisions for licensing, gear restrictions, seasonal closures, and enforcement. However, the Ordinance is now more than four decades old, and it is wholly inadequate to the requirements of modern fisheries management science and international fisheries law.

The fundamental conceptual framework of the 1983 Ordinance is the single-species maximum sustainable yield model of fisheries management, which was the dominant approach to fisheries science in the 1970s. This model conceives of each commercially exploitable fish stock as an independent entity whose sustainable exploitation can be managed by setting catch limits based on estimates of the stock's biological parameters. The model has been extensively criticised and largely superseded in fisheries management science by the ecosystem-based management approach, which recognises that fish stocks are embedded in complex ecological systems and that their management cannot be separated from the management of the broader ecosystem, including predator-prey relationships, habitat dependencies, and the effects of environmental change on fish populations.

The failure of the 1983 Ordinance to adopt an ecosystem-based management approach is not merely a technical deficiency; it has practical consequences for the conservation of Bangladesh's marine fisheries resources. The Bay of Bengal is one of the world's most heavily exploited marine environments, and there is growing scientific evidence of the depletion of several commercially important fish stocks, including the Hilsa shad, which is Bangladesh's most culturally and economically important fish species, and a range of demersal fish species. The management of these stocks under the existing framework is inadequate to prevent further depletion, and the adoption of an ecosystem-based management approach, with its more comprehensive assessment of ecological interactions and its adaptive management principles, is urgently needed.

The Ordinance also fails to address the problem of illegal, unreported, and unregulated (IUU) fishing adequately. IUU fishing is a major problem in Bangladesh's EEZ, conducted both by Bangladeshi vessels that fish without or in excess of their licences and by foreign vessels that enter Bangladesh's EEZ without authorisation. The FAO estimates that IUU fishing accounts for between 11 and 26 million tonnes of catch globally each year, representing economic losses of between 10 and 23 billion US dollars. The specific scale of IUU fishing losses in Bangladesh's EEZ is not precisely quantified, but expert estimates suggest it is substantial. The legal framework for detecting, investigating, and prosecuting IUU fishing is inadequate, and the penalties provided for IUU fishing offences in the Ordinance are not a credible deterrent.

The governance of the Hilsa fishery deserves special attention as a case study of both the importance of Bangladesh's marine fisheries resources and the inadequacy of the current regulatory framework. The Hilsa shad is the national fish of Bangladesh, a species of profound cultural, culinary, and economic significance. It is also a species under severe biological pressure from overfishing, habitat degradation, and climate change. The government of Bangladesh has implemented a series of conservation measures for the Hilsa, including seasonal bans on fishing during spawning and juvenile migration periods, and these measures have had some positive effects on Hilsa abundance. However, the management of the Hilsa fishery is complicated by the species' complex life cycle, which involves both freshwater spawning and marine feeding habitats, requiring coordination between marine and inland fisheries governance. The legal framework for this coordination is inadequate, and the integration of Hilsa fishery management into a comprehensive ecosystem-based marine fisheries law is a specific legislative priority.

6.3 The Bangladesh Coast Guard Act 2010: Enforcement Capacity and Legal Powers

The Bangladesh Coast Guard, established by the Bangladesh Coast Guard Act of 2010, is the primary maritime law enforcement agency responsible for the patrol, surveillance, and enforcement of Bangladesh's laws and regulations in the territorial sea and EEZ. The Coast Guard has made significant progress since its establishment in building its operational capacity, and it plays an important role in fisheries enforcement, search and rescue, anti-piracy operations, and maritime security. However, the legal framework governing the Coast Guard's powers and the institutional infrastructure supporting its operations have significant limitations.

The 2010 Act establishes the Coast Guard as a paramilitary force under the authority of the Ministry of Home Affairs, with a mandate that includes protecting the maritime boundary, ensuring compliance with maritime law, preventing smuggling and trafficking, conducting search and rescue operations, and assisting in natural disasters. The Act provides the Coast Guard with powers to board, search, and arrest vessels in Bangladesh's territorial sea and EEZ suspected of violations of Bangladesh's maritime laws.

The exercise of these enforcement powers must comply with the requirements of UNCLOS, particularly Article 73, which governs the enforcement of coastal state laws and regulations in the EEZ. Article 73 requires that enforcement measures, including boarding, inspection, arrest, and judicial proceedings, be taken in good faith and that arrested vessels and their crews be promptly released upon the posting of reasonable bond or other security. The domestic legal framework for the exercise of these powers does not clearly specify the procedural requirements that Article 73 imposes, creating a risk that enforcement actions may not comply fully with Bangladesh's international legal obligations.

The Coast Guard's marine environmental enforcement mandate, while formally established in the 2010 Act, is operationally very limited. The Coast Guard lacks the specialised equipment for marine environmental sampling and monitoring, the trained personnel for marine environmental inspection and investigation, and the logistical support for sustained marine environmental patrol operations in the outer EEZ. The result is that marine environmental enforcement in Bangladesh's maritime zones is largely ineffective, and violations of marine pollution laws, fisheries regulations, and environmental protection standards go largely undetected and unpunished.

The development of effective marine environmental enforcement capacity for the Coast Guard requires investment in specialised equipment including environmental sampling kits, water quality monitoring instruments, and oil pollution detection technology; investment in training programmes for Coast Guard officers in marine environmental law and enforcement; and the development of operational protocols for marine environmental enforcement that clearly specify the legal powers available, the procedures to be followed, and the standards of evidence required for successful prosecution.

6.4 The Petroleum and Mineral Resources Act and Offshore Hydrocarbon Governance

The governance of offshore hydrocarbon exploration and exploitation in Bangladesh's EEZ and continental shelf is one of the most critical dimensions of the blue economy legal framework, and it is an area where the current legal architecture has significant gaps. The principal

legislation governing Bangladesh's offshore hydrocarbon sector is the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, which established Petrobangla as the national oil and gas corporation, and the model Production Sharing Contract (PSC) framework used for the licensing of offshore exploration activities. These instruments were developed before Bangladesh had a clearly defined EEZ and before the development of the sophisticated safety and environmental standards that are now considered essential for offshore hydrocarbon governance.

The environmental governance of offshore hydrocarbon activities in Bangladesh's EEZ is particularly inadequate. The risk of major offshore oil or gas spills in the Bay of Bengal is real and growing as offshore exploration and production activities increase, and the consequences of such spills for the marine environment and for coastal communities would be severe. Major offshore oil spills, such as the Deepwater Horizon blowout in the Gulf of Mexico in 2010, have demonstrated the catastrophic ecological and economic consequences of inadequate offshore safety regulation. The specific context of the Bay of Bengal, with its exceptionally high marine biodiversity, its dense coastal fishing populations, and its sensitive mangrove ecosystems, makes the environmental stakes of a major offshore spill particularly high.

The offshore safety and environmental governance framework in Bangladesh should include, at minimum, mandatory environmental impact assessment for offshore exploration and production activities, independent environmental auditing of offshore operations, mandatory emergency response planning and oil spill response capability, liability rules that make operators fully responsible for the costs of cleanup and compensation, and regulatory standards for well design, drilling operations, and well integrity management that reflect international best practice. The development of this framework requires not only legislative action but significant investment in regulatory capacity, including the training of specialist inspectors, the development of environmental baseline data for the offshore environment, and the establishment of a dedicated offshore regulatory body.

The offshore hydrocarbon governance framework also needs to address the interaction between hydrocarbon development and the rights of fishing communities in the EEZ. Offshore exploration and production activities create safety exclusion zones around installations that may restrict access to fishing grounds, and they create risks of accidental pollution that may harm fisheries and aquaculture operations. The legal framework for compensation of fishing communities affected by offshore hydrocarbon activities is not clearly established in current Bangladeshi law, and this gap is a source of injustice that the maritime law reform must address.

CHAPTER 7: THE BLUE ECONOMY, SUSTAINABLE DEVELOPMENT, AND ENVIRONMENTAL GOVERNANCE: INTEGRATING THE FRAMEWORKS

7.1 The Contradictions of the Blue Economy Paradigm

The blue economy concept, as promoted by the Bangladeshi government and by international organisations including the World Bank, UNDP, and the Commonwealth Secretariat, promises a

model of ocean-based economic development that is simultaneously productive and sustainable, generating wealth from marine resources while preserving the ecological health of the ocean. This promise is intellectually attractive and politically resonant, but it embeds a tension that must be confronted honestly in any serious analysis of the legal framework needed to govern the blue economy.

The tension is structural. The extraction of living and non-living resources from the ocean is inherently in tension with the preservation of ocean ecosystems, because extraction removes biomass from ecosystems, disturbs habitats, and creates environmental conditions different from those that prevailed in the absence of exploitation. The question is not whether blue economy activities create environmental impacts, because all economic activities create environmental impacts, but whether those impacts can be managed within the bounds that preserve the long-term ecological integrity of the ocean. The precautionary principle and the ecosystem-based management approach are the principal tools that modern environmental governance uses to set those bounds, and the adequacy of their application in any specific context is ultimately an empirical question.

For Bangladesh, the credibility of the blue economy sustainable development narrative depends on the establishment of a genuine, functioning governance framework that sets and enforces ecological boundaries on blue economy activities. A legal framework that speaks the language of sustainability while providing no effective mechanism for preventing overexploitation, pollution, or ecosystem degradation is worse than useless, because it provides the appearance of governance while allowing the reality of ecological degradation to continue unchecked. The commentary in this Part is concerned precisely with the gap between the sustainability rhetoric of Bangladesh's blue economy strategy and the ecological reality of Bangladesh's maritime governance, and with the legal reforms necessary to close that gap.

The fisheries sector provides the starkest illustration of this tension. Bangladesh's marine fisheries are both a critical economic and food security resource and an ecosystem under severe and increasing pressure. The short-term economic incentive is to maximise catch; the long-term ecological and economic imperative is to maintain sustainable stock levels. The current legal framework, dominated by the 1983 Marine Fisheries Ordinance and characterised by inadequate monitoring, enforcement, and stock assessment, is not capable of managing this tension effectively. The result is a fisheries sector that is generating significant short-term economic output while depleting the biological capital on which its long-term viability depends.

The offshore hydrocarbon sector presents a similar but differently structured tension. Offshore gas and oil reserves represent an enormous potential source of economic value for Bangladesh, but their exploitation carries significant environmental risks and their development is in tension with Bangladesh's commitments under the Paris Agreement and with its interest in the 2024 ITLOS Advisory Opinion's confirmation that GHG emissions constitute marine pollution. A blue economy strategy that includes major expansion of offshore hydrocarbon production is difficult to reconcile with Bangladesh's climate justice advocacy unless it is accompanied by a credible plan for the management of associated emissions and the transition to renewable energy.

7.2 Marine Spatial Planning: The Legal Framework Gap

Marine spatial planning (MSP) is the governance approach that is most widely recommended by international bodies and marine management experts as the primary mechanism for managing the competing uses of marine space in a blue economy context. MSP is a process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process. It requires the mapping of existing uses of marine space, the identification of areas of high ecological significance that require protection, the designation of zones for different types of human activity, and the establishment of regulatory frameworks for the management of each zone.

Bangladesh currently has no legal framework for marine spatial planning. The governance of activities in Bangladesh's maritime zones is managed through sector-specific regulatory frameworks for fisheries, offshore hydrocarbons, maritime transport, and environmental protection, but there is no overarching spatial governance framework that coordinates these sector-specific approaches and manages the interactions between them. The result is a governance system that is fragmented, reactive, and incapable of the strategic, forward-looking management of Bangladesh's maritime space that the blue economy demands.

The development of a marine spatial planning legal framework for Bangladesh would require, at minimum, the designation of a lead coordinating authority for MSP, the establishment of a legal mandate for the preparation and implementation of marine spatial plans, the development of public participation procedures for the MSP process, the integration of MSP requirements into sector-specific regulatory frameworks including fisheries, hydrocarbons, and environmental protection, and the establishment of enforcement mechanisms for the implementation of marine spatial plans.

Several neighbouring states provide useful models for marine spatial planning legal frameworks. India has developed a Coastal Regulation Zone notification system that establishes planning controls for the coastal zone, though its application to the offshore environment is limited. Sri Lanka has developed an integrated coastal zone management policy and legal framework that provides some of the elements of a marine spatial planning system. Indonesia has enacted a Marine and Coastal Management Law that establishes a framework for marine spatial planning at the national, provincial, and district levels.

Bangladesh's blue economy strategy explicitly calls for the development of marine spatial planning, and a 2024 policy document on Bangladesh's Blue Economy Road Map identifies MSP as a priority governance tool. But the translation of this policy aspiration into a concrete legal framework has not yet occurred, and it is a specific and important item on the maritime law reform agenda.

7.3 The Role of Marine Protected Areas in Bangladesh's Conservation Strategy

Marine Protected Areas (MPAs) are designated areas of the ocean in which human activities are managed to achieve conservation objectives, ranging from partial restrictions on specific activities to complete no-take reserves that prohibit all extractive uses. The global network of MPAs has expanded significantly in recent years, and the Kunming-Montreal Global

Biodiversity Framework adopted at COP15 of the Convention on Biological Diversity in December 2022 established a target of protecting at least 30% of global land and sea areas by 2030, known as the 30x30 target. The achievement of this target in the ocean context requires the designation and effective management of MPAs covering 30% of the global ocean by 2030, a goal that will require significant expansion of the existing MPA network.

Bangladesh's contribution to the global MPA network is currently very limited. The Sundarbans Marine Protected Area, designated in 2014, is the most significant existing MPA in Bangladesh's maritime waters, but it covers only a portion of the Sundarbans coastal area and does not extend into the offshore zones of Bangladesh's EEZ. The designation of a comprehensive network of MPAs in Bangladesh's EEZ, covering ecologically critical habitats including coral reefs, seagrass beds, important fish spawning and nursery areas, and cetacean habitats, is both an ecological imperative and an international obligation under the CBD and the emerging framework of the BBNJ Agreement.

The legal framework for the designation and management of MPAs in Bangladesh's maritime zones is inadequate. The Environment Conservation Act provides a general basis for the designation of ecologically critical areas, but it does not establish specific procedures for MPA designation in the offshore environment, and it does not create the regulatory framework for the management of MPAs, including the specification of permitted and prohibited activities, the enforcement of MPA boundaries, and the monitoring of MPA effectiveness. A comprehensive marine spatial planning law, as recommended above, would provide the appropriate legal vehicle for the designation and management of a network of MPAs in Bangladesh's maritime zones.

The financing of MPA management is a significant practical challenge. MPA management is costly, requiring ongoing monitoring, enforcement, community engagement, and scientific assessment. Bangladesh's limited national budget for marine environmental management makes it difficult to fund MPA management at the level required for effectiveness. International funding mechanisms, including the Global Environment Facility, the Green Climate Fund, and the BBNJ Agreement's financial mechanism, can provide partial funding, but domestic budget allocation for MPA management is also essential and is currently insufficient.

CHAPTER 8: CLIMATE JUSTICE, LOSS AND DAMAGE, AND BANGLADESH'S STRATEGIC LEGAL POSITION

8.1 The Loss and Damage Framework: From Warsaw to Moriyama

The concept of loss and damage in the international climate regime refers to the adverse impacts of climate change that cannot be avoided through mitigation or adapted to through adaptation measures. The formal recognition of loss and damage as a distinct category of climate concern, separate from mitigation and adaptation, was achieved at COP19 in Warsaw in 2013, with the establishment of the Warsaw International Mechanism for Loss and Damage. The operationalisation of loss and damage finance, the provision of financial resources to developing

countries most vulnerable to climate impacts that cannot be avoided, has been one of the most contentious issues in international climate negotiations.

At COP27 in Sharm el-Sheikh in 2022, parties agreed to establish new funding arrangements for loss and damage, including a dedicated fund for climate loss and damage in vulnerable developing countries. This fund, operationalised at COP28 in Dubai in 2023, represents a significant, if inadequate, step toward the practical realisation of the climate justice principle. The fund's resources are, however, far smaller than the scale of loss and damage being experienced by vulnerable developing countries, and the governance arrangements for the fund remain contested.

Bangladesh is among the countries most severely affected by loss and damage from climate change, and it has been one of the most active advocates for an ambitious loss and damage finance framework in international climate negotiations. The marine and coastal dimensions of Bangladesh's loss and damage are particularly severe: rising sea levels are eroding coastal land and destabilising coastal communities; saline intrusion is degrading agricultural land and freshwater resources in coastal areas; increased cyclonic intensity is causing more frequent and more severe damage to coastal infrastructure and communities; and the degradation of the Sundarbans mangrove ecosystem is reducing the natural coastal protection that the Sundarbans provides.

The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion provide additional legal tools for Bangladesh's advocacy on loss and damage. The Advisory Opinions' confirmation that GHG emissions constitute marine pollution and that major emitting states bear due diligence obligations to prevent such pollution provides a foundation for arguing that loss and damage suffered by Bangladesh as a result of climate-driven marine environmental change constitutes harm for which emitting states bear international legal responsibility. The translation of this legal responsibility into practical reparations or compensation is a complex and politically difficult enterprise, but it is grounded in legal principle and backed by the authority of the world's highest international judicial bodies.

The ILC's work on state responsibility and the Advisory Opinion's elaboration of the due diligence standard provide the framework for thinking about the quantum of reparations that major emitting states might be required to provide. Under the ILC's Articles on State Responsibility, the obligation to make full reparation for the injury caused by an internationally wrongful act includes the obligation to provide restitution (restoration of the situation that existed before the wrongful act), compensation (payment of the economic value of the harm caused where restitution is not possible), and satisfaction (acknowledgment of the breach, expression of regret, and formal apology). The practical application of these remedial principles in the climate context raises extraordinarily complex questions of causation, attribution, and quantification that are the subject of active scholarly debate and will be the subject of future international legal proceedings.

8.2 Bangladesh's Legal Strategy: Lessons from the Bay of Bengal Arbitrations

The experience of Bangladesh's successful invocation of the UNCLOS dispute settlement system in the Bay of Bengal maritime boundary arbitrations, discussed in Part Four of this commentary, provides important lessons for Bangladesh's legal strategy in relation to climate justice and marine environmental accountability. Several features of Bangladesh's approach in the maritime boundary cases are potentially applicable to its engagement with the climate justice legal framework.

First, Bangladesh's maritime boundary strategy was long-term and comprehensive: it was based on careful legal preparation over many years, it drew on the best available international legal expertise, and it was pursued through the appropriate international legal forums with discipline and patience. The same approach is appropriate for Bangladesh's engagement with the legal accountability framework for climate marine pollution: it requires long-term strategic planning, investment in legal and scientific expertise, and a patient engagement with the emerging jurisprudence of the climate-law of the sea nexus.

Second, Bangladesh's maritime boundary strategy combined international legal proceedings with active diplomatic engagement. The decision to pursue international arbitration was not the first resort but the culmination of a process of failed bilateral negotiations, and the conduct of the arbitration was accompanied by active diplomatic engagement designed to minimise diplomatic costs and maximise the prospects of compliance with any award. A similar combined strategy is appropriate for the climate legal accountability agenda: international legal proceedings should be seen as a tool of last resort, to be used after other diplomatic options have been exhausted, but the credible threat of such proceedings can itself be a powerful diplomatic tool.

Third, Bangladesh's maritime boundary success depended critically on the quality of its legal and expert witness team. The engagement of leading international maritime law experts and technical experts in hydrography and geomorphology was essential for the quality of the legal arguments and the credibility of the evidence presented to the tribunals. Similarly, the development of Bangladesh's legal capacity in climate law and in the science of attribution of climate marine harms will be essential for the effective pursuit of the climate legal accountability agenda.

8.3 The Right to Development and the Duty to Protect: A Complex Balance

The tension between the right to development and the duty to protect the marine environment is one of the central normative tensions in the governance of Bangladesh's maritime zones. Bangladesh is a developing country with enormous unmet development needs, and the exploitation of marine resources, including fish, hydrocarbons, and tourism, is an important element of the strategy for meeting those needs. At the same time, Bangladesh bears, under UNCLOS and under the emerging framework of climate marine environmental law, positive obligations to protect and preserve the marine environment, including obligations that may restrict or constrain certain development activities.

The right to development, proclaimed in the UN General Assembly's Declaration on the Right to Development of 1986 and progressively elaborated in international human rights law, establishes that every person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural, and political development in which all human rights and fundamental freedoms

can be fully realised. In the international environmental law context, the tension between development rights and environmental obligations is managed through the concept of sustainable development, which is now recognised as a principle of customary international law by the ICJ in its Gabcikovo-Nagymaros judgment and subsequent decisions.

The sustainable development principle requires that development activities be conducted in a manner that preserves the natural resource base and ecological conditions necessary for the development of future generations. Applied to Bangladesh's maritime governance, this principle demands that the exploitation of marine resources be conducted within ecological limits that ensure the long-term productivity of those resources, that the development of offshore infrastructure and energy resources be accompanied by adequate environmental safeguards, and that the governance framework for the blue economy gives genuine weight to ecological sustainability rather than merely acknowledging it rhetorically.

The principle of common but differentiated responsibilities (CBDR), one of the foundational principles of international environmental law, provides an important qualification to the universal application of marine environmental obligations. CBDR recognises that all states share a common responsibility for the protection of the global environment but that their specific obligations and capabilities differ according to their level of development and their historical contribution to environmental problems. For Bangladesh, CBDR supports the argument that the specific content of its due diligence obligations under UNCLOS must take into account its limited financial and technical resources, that the obligation on developed states to provide capacity-building and financial assistance is essential for the effective implementation of marine environmental standards in developing countries, and that the allocation of the costs of climate marine environmental damage must reflect the historical emissions contributions of the responsible states.

CHAPTER 9: THE INSTITUTIONAL REFORM AGENDA: BUILDING THE GOVERNANCE ARCHITECTURE FOR THE FUTURE

9.1 The Fragmented Institutional Landscape: A Diagnosis

The effective governance of Bangladesh's maritime environmental and resource management interests requires a coherent, well-resourced, and technically capable institutional architecture. The current institutional landscape, as described in earlier parts of this commentary, is characterised by fragmentation, inadequate coordination, insufficient resources, and a shortage of specialised technical expertise. A comprehensive diagnosis of the institutional problems is the necessary starting point for a reform agenda.

The principal institutions with significant maritime governance responsibilities in Bangladesh include: the Ministry of Shipping and Inland Water Transport, responsible for maritime transport policy, port governance, and merchant shipping regulation; the Ministry of Fisheries and Livestock, responsible for marine and inland fisheries management; the Ministry of Environment, Forest and Climate Change, responsible for marine environmental protection and

climate policy; the Ministry of Energy and Mineral Resources, responsible for offshore hydrocarbon governance; the Bangladesh Coast Guard, responsible for maritime law enforcement; the Bangladesh Navy, responsible for maritime security and sovereignty protection; the Department of Shipping, responsible for the administration of shipping laws; the Department of Environment, responsible for environmental licensing and enforcement; the Bangladesh Fisheries Development Corporation, responsible for the development of the fisheries sector; Petrobangla, responsible for oil and gas operations; and the Chittagong Port Authority and Mongla Port Authority, responsible for the administration of Bangladesh's principal commercial ports.

This list of institutions with significant maritime governance responsibilities is not exhaustive, and it illustrates the extraordinary fragmentation of Bangladesh's maritime governance architecture. Each of these institutions operates under its own legislative mandate, with its own budget, its own personnel systems, and its own regulatory culture. The coordination between them is ad hoc and insufficient, and there is no overarching institutional mechanism for the development and implementation of an integrated maritime strategy.

The consequences of this institutional fragmentation are concrete and serious. The enforcement of fisheries regulations and the enforcement of environmental protection standards in the EEZ fall to different agencies with different powers, different equipment, and different institutional cultures, creating gaps and inconsistencies in maritime law enforcement. The development of offshore hydrocarbon resources and the assessment of environmental impacts proceed through parallel processes in different ministries, without effective integration. The governance of the Sundarbans, which involves the Ministry of Environment, the Forest Department, the district administration, local government, and the Coast Guard, is notoriously fragmented, and the inadequacy of coordinated governance has been identified as a significant threat to the ecosystem's conservation.

9.2 The Proposal for an Integrated Blue Economy and Maritime Environmental Authority

The reform of Bangladesh's maritime governance institutional architecture requires, as its centrepiece, the establishment of an Integrated Blue Economy and Maritime Environmental Authority (IBEMEA) with a clear mandate, adequate powers, appropriate funding, and the technical expertise necessary for effective governance. This proposal, which has been advanced by various scholars and policy advisors in the context of Bangladesh's blue economy strategy, is the most important single institutional reform recommended in this commentary.

The IBEMEA should be established by dedicated legislation as an independent regulatory body, reporting to Parliament rather than to any single ministry, to ensure its institutional autonomy and insulation from short-term political pressures. Its mandate should encompass the integrated governance of Bangladesh's maritime zones for purposes of environmental protection, resource management, and sustainable economic development, including the coordination of sector-specific regulatory frameworks, the development and implementation of marine spatial plans, the administration of marine protected areas, the coordination of maritime environmental monitoring and enforcement, the management of Bangladesh's international maritime relations including the

implementation of UNCLOS obligations and BBNJ Agreement obligations, and the provision of technical advice to government on maritime policy and legislation.

The IBEMEA should have a governing board that includes representatives of all relevant ministries and agencies, scientific experts in marine biology, oceanography, environmental science, fisheries management, and hydrocarbon engineering, representatives of civil society including fishing community organisations, environmental NGOs, and academic institutions, and an independent chair with demonstrated expertise in maritime law and governance. This broad governing board would ensure that the IBEMEA's decisions are informed by the full range of relevant expertise and that the interests of different stakeholders, including often-marginalised fishing communities, are represented in the governance process.

The IBEMEA should have the power to issue, amend, and revoke licences for all activities in Bangladesh's maritime zones that require environmental or resource management authorisation, to set and enforce environmental standards for maritime activities, to designate and manage marine protected areas, to conduct and commission marine scientific research, to represent Bangladesh in international maritime governance forums including ITLOS, the ISA, BIMSTEC maritime governance bodies, and BBNJ Agreement institutions, and to advise government on the implementation of Bangladesh's international maritime obligations.

The financing of the IBEMEA should be secured through a combination of budgetary appropriation, licence fees from maritime activities, and a dedicated maritime environment and development fund that captures a portion of the revenues from offshore hydrocarbon production and fisheries licensing for reinvestment in maritime governance capacity and environmental management.

9.3 Marine Scientific Research Capacity: The Foundation of Effective Governance

Effective marine environmental governance requires a scientific foundation: systematic knowledge of the state of the marine environment, of the ecology of marine species and ecosystems, of the physical oceanography of Bangladesh's maritime zones, and of the impacts of human activities and climate change on these systems. Without this scientific foundation, regulatory decisions are made in an information vacuum, and the precautionary principle must substitute for evidence-based management. The development of Bangladesh's marine scientific research capacity is therefore not a luxury but a prerequisite for effective governance.

Bangladesh's current marine scientific research capacity is limited. The Institute of Marine Sciences and Fisheries at the University of Chittagong is the principal academic institution for marine science in Bangladesh, but it operates with limited resources and limited access to research equipment, including oceanographic research vessels. The Bangladesh Oceanographic Research Institute, established in Cox's Bazar in 2019, represents an important institutional development, but its operational capacity is still being built and it has not yet produced the sustained program of systematic marine environmental monitoring and research that Bangladesh's governance needs require.

A national marine science strategy, developed in consultation with the academic community, government agencies, and international scientific partners, should identify the priority research areas for Bangladesh's marine environment, the institutional framework for marine science governance, the investment needed in research equipment and personnel, and the mechanisms for translating scientific knowledge into regulatory decisions. The strategy should prioritise the systematic monitoring of ocean temperature, chemistry, sea level, and biodiversity in Bangladesh's maritime zones; the assessment of the status and trends of commercially important fish stocks; the mapping of marine habitats including coral reefs, seagrass beds, and deep-sea features in Bangladesh's EEZ; the assessment of the marine environmental impacts of offshore hydrocarbon exploration; and the modelling of the effects of climate change on Bangladesh's coastal and marine environment.

9.4 Judicial Capacity and the Law of the Sea: Building Bangladesh's Specialist Legal Expertise

The effective domestic implementation of the law of the sea, and Bangladesh's effective participation in international maritime law forums, requires a cadre of lawyers with specialist expertise in maritime law, international environmental law, and the law of the sea. Bangladesh has developed significant expertise in these areas through its experience with the maritime boundary arbitrations, and several Bangladeshi lawyers and academics have achieved international recognition for their expertise in maritime law. However, the institutional base for maritime legal expertise remains narrow, and the training of new generations of maritime law specialists requires deliberate investment.

The development of maritime law specialisation within Bangladesh's legal education system should include the introduction of dedicated maritime law courses and specialisations in Bangladesh's law schools, support for students and researchers pursuing advanced studies in maritime law at international institutions, the development of a specialist maritime law journal to provide a forum for the publication and dissemination of maritime law scholarship, the creation of a maritime law centre or institute with a mandate for research, teaching, and policy analysis in the field, and the establishment of a maritime law continuing education programme for lawyers and officials working in the field.

Within the judiciary, the designation of judges with specialist training and experience in maritime law to hear maritime cases would improve the quality and consistency of judicial decision-making in this complex and specialised field. The establishment of a dedicated maritime court, or a maritime chamber within the existing court system, would concentrate maritime cases before judges with relevant expertise and would develop a coherent body of domestic maritime jurisprudence.

CHAPTER 10: THE COMPREHENSIVE REFORM AGENDA: LEGISLATIVE, INSTITUTIONAL, AND INTERNATIONAL DIMENSIONS

10.1 The Case for a Consolidated Maritime Code

The multiplicity of legislative instruments governing different aspects of Bangladesh's maritime legal framework, including the Territorial Waters and Maritime Zones Act as amended, the Marine Fisheries Ordinance, the Merchant Shipping Ordinance, the Bangladesh Coast Guard Act, the Environment Conservation Act, the Bangladesh Oil Gas and Mineral Corporation Ordinance, and numerous other instruments, creates a framework that is difficult to navigate, internally inconsistent in places, and inadequate in its coverage of several important areas. The consolidation of these instruments into a comprehensive Maritime Code would be a significant contribution to the clarity, accessibility, and effectiveness of Bangladesh's maritime law.

A comprehensive Maritime Code should address, in a single, coherent instrument: the delimitation and governance of Bangladesh's maritime zones; the rights and obligations of the state and of private actors in each zone; the environmental protection framework applicable in each zone; the fisheries management framework; the offshore hydrocarbon governance framework; the maritime transport and port governance framework; the maritime security and coast guard powers framework; the dispute resolution framework for maritime disputes; and the implementation of Bangladesh's international maritime obligations. The drafting of such a code is a major legislative undertaking, requiring the collaborative engagement of legal experts, scientists, government officials, and industry and civil society stakeholders, but it is a project whose value in terms of legal clarity and governance effectiveness would be commensurate with its ambition.

The model of the Norwegian Marine Resources Act of 2008, which consolidated Norway's fisheries and marine resource management legislation into a comprehensive and coherent framework based on the ecosystem approach, provides an instructive example for Bangladesh's legislative reform. The Norwegian Act established a management objective of maintaining marine resources and their associated ecosystems in a productive and sustainable state, adopted the ecosystem approach as the primary management principle, and established flexible regulatory mechanisms that can be adapted as scientific understanding of the ecosystem evolves. While the specific context of Norway's Arctic marine environment is very different from Bangladesh's Bay of Bengal environment, the legislative approach embodied in the Norwegian Act provides a model for the kind of comprehensive, ecosystem-based, adaptive marine resources law that Bangladesh needs.

10.2 The Specific Reform Priorities: A Legislative Agenda

Building on the analysis in this Part and in earlier parts of this commentary, the following specific legislative reforms are identified as priorities for Bangladesh's maritime law reform agenda.

The first priority is the amendment of the Territorial Waters and Maritime Zones Act to address the remaining gaps and deficiencies identified in this commentary, including the definition of marine pollution consistent with the ITLOS Advisory Opinion's interpretation of Article 1(1)(4) of UNCLOS, the establishment of specific pollution prevention standards for different categories of maritime activities, the creation of an explicit legal basis for marine spatial planning, and the establishment of a clear legal framework for the governance of the grey area between Bangladesh's EEZ and outer continental shelf boundaries.

The second priority is the comprehensive reform of the Marine Fisheries Ordinance, replacing it with a new Marine Fisheries and Ocean Management Act that adopts the ecosystem-based management approach, establishes science-based catch limits for all commercially exploited species, creates a comprehensive licensing and monitoring system for fishing vessels in Bangladesh's EEZ, establishes effective penalties for IUU fishing, provides for the participation of fishing communities in fisheries management decision-making, and implements Bangladesh's obligations under the UNCLOS fisheries provisions and relevant FAO instruments.

The third priority is the enactment of a dedicated Offshore Petroleum and Minerals Environmental Safety Act that establishes the environmental and safety standards applicable to offshore hydrocarbon exploration and production activities in Bangladesh's EEZ and continental shelf, creates a dedicated offshore safety regulator with the powers and expertise necessary for effective regulation, establishes mandatory environmental impact assessment for offshore activities, imposes strict liability on operators for marine pollution from offshore facilities, and requires the maintenance of adequate financial security for cleanup and compensation costs.

The fourth priority is the amendment of the Environment Conservation Act to include a comprehensive framework for marine environmental protection, including the definition of marine pollution consistent with UNCLOS, the establishment of marine environmental quality standards, the creation of legal mechanisms for the designation and management of marine protected areas, and the integration of climate change impacts into the framework of marine environmental governance.

The fifth priority is the enactment of a Coastal Zone Management Act that establishes an integrated framework for the governance of the coastal zone, including the designation of coastal development zones, the regulation of activities that affect coastal habitats and communities, the integration of climate change adaptation into coastal development planning, and the protection of the rights of coastal fishing communities in relation to coastal development.

The sixth priority is the ratification and domestic implementation of outstanding international maritime instruments, including the BBNJ Agreement, the Hong Kong Ship Recycling Convention, the London Protocol on dumping, the Cape Town Agreement on the safety of fishing vessels, and any outstanding protocols and amendments to MARPOL.

The seventh priority is the establishment of the IBEMEA as the lead coordinating institution for maritime governance, through dedicated enabling legislation that defines its mandate, powers, composition, and funding arrangements.

10.3 The International Dimension: Bangladesh's Diplomatic Agenda for Maritime Law Reform

The reform of Bangladesh's domestic maritime law framework must be complemented by an active international diplomatic agenda that advances Bangladesh's interests in the development and implementation of international maritime law. The following international diplomatic priorities are identified as most important for Bangladesh.

In relation to the climate-law of the sea nexus, Bangladesh should continue to be an active and constructive participant in the implementation of the 2024 ITLOS and 2025 ICJ Advisory Opinions, including through its engagement with the ILC's work on sea-level rise, its participation in the UN General Assembly's high-level meeting on sea-level rise, and its advocacy for the development of specific treaty provisions to give effect to the Advisory Opinions' findings on baseline stability and maritime entitlement protection.

In relation to the BBNJ Agreement, Bangladesh should prioritise its ratification of the Agreement, engage actively in the Preparatory Commission's work preparing for COP1, develop a national strategy for the use of the BBNJ Agreement's capacity-building and benefit-sharing provisions, and champion the designation of area-based management tools in the Bay of Bengal high seas.

In relation to BIMSTEC, Bangladesh should champion the development of a BIMSTEC marine environmental action plan, building on the maritime transport cooperation agreement ratified in 2025, and should lead the development of regional cooperation frameworks for fisheries management, marine pollution response, and climate adaptation in the Bay of Bengal.

In relation to its bilateral relationship with India, Bangladesh should prioritise the resolution of the grey area problem through the negotiation of a bilateral agreement on the governance of the area where Bangladesh's continental shelf rights and India's EEZ rights overlap, and should engage constructively with India in the joint governance of shared fisheries resources and shared marine environmental challenges, including the protection of the Sundarbans ecosystem.

CHAPTER 11: JURISPRUDENTIAL SYNTHESIS: THE NEW THEORETICAL FRAMEWORK FOR BANGLADESH'S MARITIME ENVIRONMENTAL GOVERNANCE

11.1 Toward a Unified Theory of Ocean Governance for Bangladesh

The jurisprudential developments of 2024 to 2026, considered in the light of the philosophical traditions, historical evolution, and political dimensions of marine environmental law examined in this Part, point toward a unified theoretical framework for Bangladesh's maritime environmental governance that goes beyond the fragmented, sector-specific approach of the current legal architecture.

This unified framework has several constitutive elements. Its first element is the principle of the ocean as a shared heritage: not property, not a commons free for all, but a shared heritage held in trust by the present generation for the benefit of all people, present and future. This principle, grounded in the common heritage of mankind concept of UNCLOS and extended by the BBNJ Agreement to the governance of marine genetic resources, demands a governance framework oriented not merely toward the maximisation of present resource extraction but toward the preservation of the ocean's biological and physical integrity for future generations.

Its second element is the principle of ecological integrity as a non-negotiable constraint on economic development: the recognition that the ecosystem processes and biodiversity that support the productive capacity of the ocean, including its fisheries, its capacity to regulate the global climate, and its capacity to provide a range of other ecosystem services, represent a form of natural capital that must be maintained within certain minimum conditions if it is to continue delivering its services. This principle, grounded in the ecosystem-based management approach and in the precautionary principle, demands that the governance of blue economy activities be subject to ecological limits that are set by science and enforced by law.

Its third element is the principle of climate justice as a legal obligation: the recognition, confirmed by the highest international judicial authorities, that climate change constitutes the most significant form of marine pollution currently affecting Bangladesh's maritime zones and that the states responsible for this pollution bear specific legal obligations to prevent, reduce, and control it and to assist vulnerable states like Bangladesh in coping with its consequences. This principle provides the legal foundation for Bangladesh's climate advocacy and for its demands for climate finance, technology transfer, and accountability.

Its fourth element is the principle of equity in the governance of marine resources and benefits: the recognition that the benefits of the blue economy should be distributed equitably among Bangladesh's population, with special attention to the most vulnerable members of coastal communities, including women, small-scale fisherfolk, and marginalised communities, and that the costs of marine environmental protection should be shared equitably among states, with major emitters bearing a proportionate share of the costs of climate adaptation in marine-dependent developing countries.

Its fifth element is the principle of institutional coherence and capacity: the recognition that effective maritime environmental governance requires adequate institutional capacity, in the form of well-resourced, technically competent, and institutionally independent regulatory bodies, and that the development of such capacity in Bangladesh requires sustained investment and comprehensive institutional reform.

11.2 The Constructivist Dimension: Building the Norms of Ocean Governance

The constructivist perspective in international relations theory, as developed by Alexander Wendt and applied to international environmental governance by scholars such as Peter Haas, in his work on epistemic communities, and Thomas Risse, in his work on the role of ideas and norms in international politics, suggests that the norms of ocean governance are not fixed but are continuously created, contested, and reconstructed through the discursive practices of states, international organisations, scientists, civil society organisations, and other actors. The radical transformation in the norms of marine environmental law that has been accomplished by the 2024 and 2025 Advisory Opinions and by the BBNJ Agreement is not the product of some inexorable legal logic but of sustained political advocacy by specific actors, particularly the small island developing states and the civil society organisations that supported their cause, who successfully constructed and promoted a normative framework for climate justice in the ocean that has now been confirmed by the world's highest judicial authorities.

For Bangladesh, the constructivist perspective is both empowering and demanding. It is empowering because it demonstrates that even relatively small and poor states can shape the norms of international law through principled and sustained advocacy, and that the transformation of global ocean governance from the freedom of the seas paradigm to the sustainable stewardship paradigm has been driven significantly by the advocacy of vulnerable developing states rather than by the preferences of the great powers. Bangladesh's own maritime boundary success, described in earlier Parts of this commentary, is another example of the same phenomenon: a developing state achieving a major legal victory through the principled use of international legal institutions.

It is demanding because the constructivist perspective also recognises that norms do not implement themselves: the legal principles confirmed by the Advisory Opinions must be given concrete institutional form through treaty provisions, domestic legislation, institutional practice, and consistent state behavior if they are to become operative norms of international law rather than merely inspirational statements of principle. Bangladesh's responsibility is not only to invoke these norms in the international arena but to give them practical expression in its domestic legal framework, demonstrating through its own governance practices the seriousness of its commitment to the principles it advocates internationally.

11.3 The Rawlsian Critique of the Current Ocean Order

John Rawls's theory of justice provides a powerful critique of the current order of ocean governance as it applies to Bangladesh's situation. In A Theory of Justice, Rawls argues that just institutions are those that rational individuals would choose behind a veil of ignorance, not knowing what their own position in society would be. Applied to the international level, a Rawlsian analysis of the current order of ocean governance would ask what rules rational individuals would choose if they did not know whether they would be born in a major emitting developed country or in a climate-vulnerable developing coastal state like Bangladesh.

Behind the veil of ignorance, no rational person would choose a system that allows the externalities of industrial development in some countries to be imposed as catastrophic costs on people in other countries, particularly when those other countries are among the poorest and most vulnerable in the world. No rational person would choose a system in which the benefits of the freedom to exploit the global commons accrue primarily to technologically advanced states while the costs of common property management fall disproportionately on developing states without the capacity to exploit those commons effectively. And no rational person would choose a system in which the most powerful states can impose climate harms on the least powerful states with minimal legal accountability.

Yet this is precisely the character of the current international ocean governance order, at least in its most important respects. The ITLOS and ICJ Advisory Opinions have begun the process of correcting the most egregious of these injustices by establishing legal accountability for climate marine pollution. The BBNJ Agreement has begun the process of establishing equitable governance of marine genetic resources beyond national jurisdiction. But these developments are partial and incomplete, and the realisation of a Rawlsian just ocean order remains a distant aspiration rather than a present reality.

For Bangladesh, the Rawlsian critique provides a powerful normative framework for its advocacy in international maritime law forums. The argument that the current order is fundamentally unjust, and that justice demands specific reforms including meaningful climate accountability, equitable benefit-sharing from marine genetic resources, adequate financial support for climate adaptation in marine-dependent developing countries, and fair access to the dispute settlement system for all states regardless of their financial resources, is a coherent and philosophically grounded argument that Bangladesh is well-positioned to make.

CHAPTER 12: PROCEDURAL DIMENSIONS AND ACCESS TO JUSTICE IN MARITIME ENVIRONMENTAL LAW

12.1 Environmental Justice and the Maritime Domain

Access to justice in environmental matters has three principal dimensions, identified in the 1998 Aarhus Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters: the right of access to environmental information, the right of public participation in environmental decision-making, and the right of access to justice in environmental matters. While the Aarhus Convention was developed in the European context and is not directly binding on Bangladesh, its principles have been widely adopted in international environmental law and provide a useful framework for assessing the adequacy of Bangladesh's domestic legal framework in the maritime environmental context.

In the area of access to environmental information, Bangladesh has made some progress through the Right to Information Act of 2009, which establishes a general right of access to information held by public authorities. However, the application of this right to maritime environmental information, including information about fishing licences, environmental impact assessments for maritime activities, compliance records, and the results of marine environmental monitoring, is uneven, and there are significant gaps in the availability of marine environmental data in the public domain.

In the area of public participation in maritime environmental decision-making, Bangladesh's framework is weak. The environmental impact assessment system includes provisions for public consultation, but in practice the consultation process for maritime environmental decisions is often perfunctory, and the participation of fishing communities and other affected stakeholders in decisions about maritime resource allocation and environmental regulation is inadequate. The development of effective public participation mechanisms for maritime decision-making, including the designation of marine protected areas, the licensing of offshore hydrocarbon activities, and the development of marine spatial plans, is an important element of the reform agenda.

In the area of access to justice in maritime environmental matters, Bangladesh's framework is particularly inadequate. The existing court system is not well-equipped to hear complex maritime environmental cases, and the transaction costs of litigation, including legal fees, expert witness costs, and the time and resources required to pursue a case through the courts, are prohibitive for

most coastal communities and individuals affected by maritime environmental harm. The development of more accessible justice mechanisms, including environmental tribunals with maritime jurisdiction, legal aid schemes for maritime environmental cases, and simplified procedures for small claims, is an important reform priority.

12.2 The Role of Non-Governmental Organisations and Civil Society

Civil society organisations, including environmental NGOs, fishing community organisations, and academic institutions, play a crucial role in the governance of the marine environment in any effective legal system. They perform functions of monitoring and reporting environmental harms that government agencies may lack the capacity to perform, they provide legal assistance and advocacy for affected communities, they engage in public education and awareness-raising about marine environmental issues, and they participate as stakeholders in decision-making processes about marine resource management and environmental protection.

Bangladesh has a vibrant civil society, with numerous NGOs active in environmental, fisheries, and coastal governance issues. Organisations such as Bangladesh Environment Lawyers Association, Coastal Development Partnership, and various community-based fishing organisations play important roles in advocating for the rights of coastal communities and in monitoring the state of Bangladesh's marine environment. The legal framework for civil society engagement with maritime governance should be strengthened to ensure that these organisations have meaningful access to information, decision-making processes, and justice mechanisms.

The specific role of academic institutions in marine environmental governance deserves attention. Universities with marine science and maritime law programs play a crucial role in generating the knowledge base necessary for effective governance and in training the specialists needed to populate regulatory agencies, the judiciary, and the legal profession. The strengthening of university-based marine science and maritime law programs, and the development of mechanisms for translating academic research into policy-relevant advice, is an important element of the long-term capacity-building agenda for Bangladesh's maritime governance.

CHAPTER 13: CONTROVERSIES, COMPETING VISIONS, AND THE FUTURE OF OCEAN GOVERNANCE

13.1 The Deep Seabed Mining Controversy and Bangladesh's Position

The governance of deep seabed mining, under the auspices of the International Seabed Authority (ISA), is one of the most contested issues in contemporary international maritime law. The ISA, established under Part XI of UNCLOS and the 1994 Implementation Agreement, is responsible for organising and controlling all mineral-related activities in the Area, defined as the seabed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, and doing so for the benefit of mankind as a whole. The common heritage of mankind principle, which governs the Area, requires that the benefits from deep seabed mining be shared equitably among all states.

The development of commercial deep seabed mining is controversial for several reasons. Environmentally, the mining of polymetallic nodules, cobalt-rich crusts, and seafloor massive sulfide deposits from the deep seabed would disturb unique and largely unstudied ecosystems, including the extraordinary biodiversity of the deep-sea floor and the hydrothermal vent communities that have developed over millions of years. The ecological impacts of large-scale deep seabed mining are not fully understood, and the precautionary principle demands caution before permitting activities whose consequences are potentially irreversible. Several states, including France, Germany, Chile, Panama, New Zealand, and Fiji, have called for a moratorium on deep seabed mining pending further scientific study.

Economically, deep seabed mining is promoted as a source of the critical minerals, including manganese, cobalt, nickel, and copper, that are needed for the transition to renewable energy and electric transport. The argument is that the minerals available in deep seabed polymetallic nodule fields could contribute significantly to global critical mineral supply chains without the land-based environmental and social impacts of terrestrial mining. This argument has considerable force, and several major economies are actively pursuing deep seabed mining as an element of their critical minerals strategies.

For Bangladesh, the deep seabed mining controversy is primarily relevant as a matter of international governance principle rather than as a direct economic interest, since Bangladesh's maritime territory does not extend to the Area. Bangladesh's interest in the ISA and deep seabed mining governance is the interest of a developing state in the equitable implementation of the common heritage of mankind principle, including the assurance that the benefits of deep seabed mining are shared equitably with developing countries through the mechanisms of the ISA's financial arrangements.

13.2 The Artificial Islands and Installations Controversy in the South China Sea

The construction of artificial islands by China in the South China Sea, and the legal controversies surrounding their status under international law, has implications for the broader law of the sea that are relevant to Bangladesh's maritime legal framework. The 2016 arbitral award in the case of the Philippines v. China, decided under Annex VII of UNCLOS, addressed a range of questions about the legal status of features in the South China Sea and the validity of China's claims in that area. The award's finding that artificial islands do not generate maritime zones, and that the conversion of low-tide elevations into artificial islands does not change their legal status, has broader implications for the law of artificial islands and installations under UNCLOS.

For Bangladesh, the artificial islands question is relevant primarily in the context of its own EEZ, where the construction of artificial islands or offshore installations for energy, aquaculture, or other purposes is contemplated in blue economy development plans. UNCLOS Article 60 gives the coastal state the exclusive right to construct, authorise, and regulate artificial islands, installations, and structures in the EEZ, and to establish safety zones around them. The domestic legal framework for the authorisation, construction, and governance of artificial islands and installations in Bangladesh's EEZ is not clearly established, and this is a gap that the legislative reform agenda should address.

13.3 The Fisheries Subsidies Agreement and its Implications

The Agreement on Fisheries Subsidies, adopted by the World Trade Organisation in June 2022 and ratified by a sufficient number of WTO members to enter into force in 2024, is a significant development in the international governance of fisheries. The Agreement prohibits subsidies to fishing of stocks that are overfished and fishing in areas of unregulated high seas, and it establishes disciplines on subsidies to illegal, unreported, and unregulated fishing. For Bangladesh, which provides various forms of support to its marine fisheries sector, the Agreement creates obligations to review and in some cases eliminate domestic fishing subsidies that are inconsistent with its provisions.

The relationship between the Fisheries Subsidies Agreement and the UNCLOS framework for fisheries conservation is an important governance question. The UNCLOS framework imposes obligations on coastal states to conserve fish stocks in their EEZs and to cooperate with other states in the management of shared and straddling stocks. The Fisheries Subsidies Agreement adds an additional layer of trade law obligations that are directly linked to conservation objectives. The interaction between these two legal frameworks, and the implications for Bangladesh's domestic fisheries support policies, requires careful legal analysis that should inform the reform of Bangladesh's fisheries legislation.

CHAPTER 14: SYNTHESIS AND CONCLUSION: THE IMPERATIVE OF COMPREHENSIVE REFORM

14.1 The Moment of Opportunity and Obligation

Bangladesh stands at a moment of both exceptional opportunity and exceptional obligation in relation to the governance of its maritime environment. The opportunity is defined by the new international legal framework, confirmed by the 2024 ITLOS Advisory Opinion, the 2025 ICJ Advisory Opinion, and the entry into force of the BBNJ Agreement in January 2026, which provides Bangladesh with powerful new tools for claiming its rights, advancing its interests, and holding major emitting states to account for the marine environmental harms they have caused. It is defined also by the recognition of the bay of Bengal's resource potential, the growing international interest in the blue economy, and the availability of international financial and technical assistance for the development of sustainable maritime governance.

The obligation is defined by the same new legal framework, which confirms that Bangladesh itself bears due diligence obligations under UNCLOS to protect and preserve the marine environment of its maritime zones, obligations that its current legal architecture manifestly does not fully discharge. It is defined by the ecological reality of a marine environment under severe and increasing stress from overfishing, pollution, and climate change. And it is defined by the social reality of millions of coastal Bangladeshis whose livelihoods, food security, and physical safety depend on the health of the Bay of Bengal and the adequacy of the governance framework that protects it.

The comprehensive reform of Bangladesh's maritime environmental legal architecture is not a project that can be deferred to some future moment of greater institutional capacity or fiscal comfort. The ecological urgency is present and intensifying. The international legal framework has evolved to the point where Bangladesh's compliance gap is not merely a matter of academic interest but a genuine legal vulnerability. And the opportunity provided by the current moment of political attention to blue economy development to embed ecological sustainability principles in the legal and institutional framework for that development may not be available indefinitely.

14.2 The Ten Commandments of Maritime Environmental Reform for Bangladesh

Drawing on the comprehensive analysis in this Part, the following ten principles are advanced as the governing framework for Bangladesh's maritime environmental legal reform.

The first principle is the principle of ecological primacy: the recognition that the long-term ecological integrity of Bangladesh's maritime zones is a precondition for the sustained delivery of all other values, economic, social, cultural, and security, that the maritime domain provides, and that ecological limits must be treated as binding constraints rather than as aspirational targets in the governance of maritime activities.

The second principle is the principle of legal coherence: the recognition that the current fragmented legislative framework must be replaced by a coherent, comprehensive, and internally consistent body of maritime law that gives effective expression to Bangladesh's international obligations, provides clear regulatory guidance to all actors in the maritime domain, and establishes effective enforcement mechanisms.

The third principle is the principle of institutional adequacy: the recognition that effective governance requires adequate institutions, including an integrated maritime governance authority with the powers, resources, and expertise necessary for the comprehensive and consistent governance of Bangladesh's maritime zones.

The fourth principle is the principle of scientific grounding: the recognition that effective maritime environmental governance must be grounded in systematic, high-quality scientific knowledge of the state of Bangladesh's marine environment and the impacts of human activities upon it, and that the development of this scientific knowledge base requires sustained investment in marine research and monitoring capacity.

The fifth principle is the principle of precautionary governance: the recognition that in the face of scientific uncertainty about the consequences of activities that may cause serious or irreversible harm to the marine environment, the burden of proof must rest with those who propose such activities to demonstrate their safety, rather than with regulators to demonstrate harm.

The sixth principle is the principle of equity and inclusion: the recognition that the benefits and burdens of maritime governance must be distributed equitably among Bangladesh's population, with special attention to the most vulnerable members of coastal communities, and that the

participation of affected communities in maritime governance decision-making is both a right and a practical necessity for governance effectiveness.

The seventh principle is the principle of climate justice: the recognition that climate change is the most severe and comprehensive threat to Bangladesh's marine environment, that Bangladesh has powerful legal grounds for demanding accountability from major emitting states and for claiming assistance in climate adaptation, and that Bangladesh's domestic governance framework must address climate impacts on the marine environment with the urgency they demand.

The eighth principle is the principle of international engagement: the recognition that the governance of Bangladesh's maritime environment cannot be fully achieved through domestic action alone and requires sustained, strategic, and technically well-informed engagement with international maritime law forums, regional cooperation bodies, and bilateral relationships with key partners.

The ninth principle is the principle of adaptive governance: the recognition that maritime environmental governance must be capable of adapting to changing ecological conditions, evolving scientific understanding, and developing international legal norms, and that the legal framework must therefore provide flexible regulatory mechanisms that can be adjusted as circumstances change, rather than rigid prescriptions that quickly become obsolete.

The tenth principle is the principle of intergenerational responsibility: the recognition that the marine environment of Bangladesh's maritime zones is a heritage that the present generation holds in trust for future generations, and that the governance framework must be oriented toward the preservation of this heritage rather than merely toward the maximisation of present resource extraction.

14.3 The Convergence of Law and Justice in Bangladesh's Maritime Future

The analysis in this Part has traced the convergence of several streams of legal, philosophical, and political development that are now producing a coherent framework for the governance of Bangladesh's maritime environment. The philosophical traditions of stewardship, intergenerational justice, and the common heritage of mankind; the jurisprudential developments of the 2024 and 2025 Advisory Opinions and the BBNJ Agreement; the emerging institutional frameworks of BIMSTEC maritime cooperation and the BBNJ Agreement's governance structure; and the political imperatives of climate justice and sustainable development are converging toward a vision of maritime governance that is simultaneously ecologically sound, socially just, and legally robust.

Bangladesh has the intellectual resources, the international legal credibility established by its maritime boundary arbitration successes, and the political interest to be a leader in the realisation of this vision. The reform of its domestic maritime environmental legal architecture, the comprehensive project outlined in this Part, is the domestic foundation on which that international leadership can be built. A country that speaks the language of climate justice and sustainable ocean governance in international forums must practice what it preaches in its

domestic laws and institutions. The credibility of Bangladesh's international advocacy depends on the seriousness of its domestic reform.

The sea has always commanded the imagination of philosophers, lawmakers, and sovereigns, as this commentary observed in its opening Part. In the twenty-first century, the sea commands something more urgent than imagination: it commands action. The bay of Bengal, in whose northern embrace Bangladesh sits, is asking more of Bangladesh than philosophical reflection and diplomatic eloquence. It is asking for laws that protect it, institutions that govern it wisely, and a commitment by the present generation to leave it as a living, productive, and biodiverse heritage for the generations to come. This Part has endeavoured to articulate the legal and institutional architecture of that commitment, with the conviction that clarity of analysis is the necessary precondition for effectiveness of action.

The comprehensive reform of Bangladesh's maritime environmental legal architecture is both the most intellectually challenging and the most practically urgent dimension of the broader maritime law reform agenda examined in this twenty-part commentary. It requires philosophical depth, jurisprudential sophistication, technical expertise, political will, and institutional capacity. This Part has provided the analytical framework. The task of implementation belongs to the lawyers, legislators, scientists, policymakers, and citizens of Bangladesh, in whose hands the future of the Bay of Bengal and the communities that depend upon it ultimately rests.

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End of Part Fourteen

The commentary proceeds in Part Fifteen to an examination of the governance of Bangladesh's maritime security, the legal framework for the suppression of piracy and maritime crime, the interaction between the law of the sea and the law of armed conflict in the Bay of Bengal, and the emerging challenges of cybersecurity and autonomous vessels in the maritime domain.

PART FIFTEEN

THE LEGAL ARCHITECTURE OF MARITIME SHIPPING, PORT GOVERNANCE, ADMIRALTY JURISDICTION, AND THE TRANSFORMATION OF MARITIME COMMERCE: A CRITICAL COMMENTARY ON BANGLADESH'S MERCHANT SHIPPING LAW, FLAG STATE AND PORT STATE RESPONSIBILITIES, SEAFARERS' RIGHTS, AND THE IMPERATIVE OF COMPREHENSIVE REFORM IN THE AGE OF DIGITISATION, REGIONAL CONNECTIVITY, AND SUSTAINABLE OCEAN COMMERCE

A COMMENTARY ON THE JURISPRUDENTIAL FOUNDATIONS OF COMMERCIAL MARITIME LAW, THE STRUCTURAL INADEQUACIES OF BANGLADESH'S CURRENT SHIPPING LEGAL FRAMEWORK, THE HISTORICAL EVOLUTION AND PHILOSOPHICAL UNDERPINNINGS OF ADMIRALTY AND MARITIME COMMERCE LAW, AND THE COMPREHENSIVE REFORM AGENDA DEMANDED BY BANGLADESH'S POSITION AS A GROWING MARITIME TRADING NATION IN THE AGE OF INTERNATIONAL MARITIME ORGANISATION STANDARD-SETTING AND REGIONAL INTEGRATION THROUGH BIMSTEC

PREFACE TO PART FIFTEEN

The governance of maritime commerce occupies a distinctive and irreplaceable position in the legal architecture of the law of the sea. If the international law of the sea, as surveyed across the earlier Parts of this commentary, provides the constitutional framework of ocean sovereignty and resource jurisdiction, then the law of maritime shipping, port governance, and maritime commerce provides the operational sinew of that constitution: the day-to-day body of rules that determine how ships are registered, how goods are carried across the sea, how ports are governed, how seafarers are protected, how maritime disputes are resolved, and how the safety of vessels and their crews is ensured. These are not abstract principles but living legal instruments that govern billions of dollars of trade, the livelihoods of hundreds of thousands of maritime workers, and the movement of the commodities on which the daily life of Bangladesh's 170 million citizens depends.

Bangladesh is, by any measure, a maritime trading nation. Its economy is profoundly dependent on maritime commerce. The ready-made garment sector, which contributes approximately 84 percent of Bangladesh's export earnings, relies entirely on the maritime transport of fabric inputs and finished garments. The import of food grains, petroleum, fertilisers, machinery, and industrial raw materials is conducted overwhelmingly by sea through the ports of Chittagong,

Mongla, and the emerging Payra Port. The livelihoods of millions of Bangladeshi seafarers employed on foreign-flagged vessels, and the economic contribution of their remittances, are a significant element of the national economy. And the development of the blue economy, discussed at length in earlier Parts of this commentary, is premised on the expansion and sophistication of Bangladesh's maritime commercial capacities.

Yet the legal framework governing this vast and vital dimension of Bangladesh's national life is, by candid assessment, fragmentary, outdated, and structurally inadequate. The Bangladesh Merchant Shipping Ordinance of 1983, the foundational instrument of domestic shipping law, is now more than four decades old and was drafted in a legislative environment entirely different from the current one. The international maritime governance framework of the International Maritime Organisation has, in the intervening decades, generated an extraordinary body of conventions, codes, and standards that have transformed the global regulatory landscape of shipping, and Bangladesh's domestic law has failed to keep pace with these developments. The Bangladesh Merchant Shipping Act of 2020, while an improvement, has not entered into full force as a single, integrated instrument replacing the 1983 Ordinance, and the legal landscape remains characterised by overlapping and sometimes inconsistent instruments. The admiralty jurisdiction of Bangladeshi courts, while grounded in the ancient traditions of the English law, is underdeveloped in its application to modern maritime commerce disputes. The governance of Bangladesh's ports, including the critically important Chittagong Port, is fragmented across multiple authorities with overlapping mandates and insufficient coordination. And the rights of Bangladeshi seafarers, both those serving on Bangladeshi-flagged vessels and those employed on foreign-flagged ships, are protected by a framework that does not fully reflect the standards established by the Maritime Labour Convention of 2006.

This Part undertakes a comprehensive and systematically critical examination of Bangladesh's maritime commercial law framework. It proceeds through a rigorous engagement with the philosophical, jurisprudential, historical, and technical dimensions of maritime commerce law, drawing on the deepest intellectual traditions of maritime jurisprudence, on the most recent developments in international maritime standard-setting, and on a candid assessment of the structural deficiencies of Bangladesh's domestic legal architecture. It is animated by the conviction that the transformation of Bangladesh into a genuinely capable maritime nation, able to realise the aspirations of the blue economy strategy and of Vision 2041, requires not merely economic investment but profound legal reform: the construction of a maritime commerce legal framework adequate to the demands of the twenty-first century and responsive to the specific circumstances, needs, and opportunities of Bangladesh's position in the global maritime order.

CHAPTER 1: THE PHILOSOPHY AND JURISPRUDENTIAL FOUNDATIONS OF MARITIME COMMERCE LAW

1.1 The Ancient Roots of Maritime Commercial Law: Lex Maritima and the Problem of Commercial Custom

Maritime commerce law has the longest jurisprudential history of any body of commercial law. The reason is simple: long-distance commerce, which generated the need for sophisticated legal rules governing the risks and relationships of commerce, was conducted by sea for millennia before it was conducted by land on any comparable scale. The sea routes of the ancient Mediterranean, the Indian Ocean, the South China Sea, and the Bay of Bengal were the original highways of global commerce, and the legal rules governing the relationships of merchants, shipowners, mariners, and cargo interests that developed along these routes constituted the oldest body of international commercial law in the history of human civilisation.

The Rhodian Sea Law, attributed to the merchant community of the island of Rhodes in the Eastern Mediterranean and estimated to date from approximately the seventh century of the common era, though drawing on much earlier practices, is the earliest surviving systematic compilation of maritime commercial legal rules. It governed topics including the general average contribution of shipowners and cargo interests when goods were deliberately jettisoned to save the vessel from peril, the liability of ship masters for cargo damage, and the rights and duties of seafarers. These topics remain among the central concerns of maritime commerce law today, and the longevity of this legal tradition across more than a millennium and a half is remarkable testimony to the enduring logic of the maritime commercial enterprise.

The Roman law contributed to maritime commercial jurisprudence primarily through the institution of the foenus nauticum, the maritime loan or bottomry bond, by which a merchant or shipowner could borrow money secured on the vessel or the cargo, with the understanding that if the venture was lost at sea, the loan would not be repayable. The foenus nauticum was a sophisticated legal instrument that allocated the risk of maritime commerce between lenders, who charged very high interest rates to compensate for the risk of total loss, and borrowers, who gained access to capital they would not otherwise have been able to obtain. The institution reveals a fundamental jurisprudential insight that has remained at the heart of maritime commerce law ever since: the unique risks of maritime commerce, arising from the physical dangers of the sea, require legal instruments that are specifically designed to allocate and manage those risks, and the general principles of commercial law, developed primarily for the relatively predictable risks of land commerce, are not adequate for the purpose.

The medieval period saw the development of a series of maritime codes in the trading cities of Europe that constitute the direct ancestors of modern maritime commerce law. The Consolato del Mare, the sea code compiled in Barcelona in the fourteenth century and reflecting the commercial practice of the western Mediterranean trading communities, governed topics including the rights of neutrals in wartime, the carriage of goods by sea, and the settlement of maritime disputes by maritime courts with specialised expertise in commercial custom. The Laws of Wisby, governing maritime commerce in the Baltic Sea and North Sea, and the Rolls of Oleron, originating in the French island of Oleron and governing the wine trade of the Bay of Biscay, similarly codified maritime commercial customs that had developed through the practice of merchant communities. These instruments, collectively described as the lex maritima or law merchant of the sea, were not the products of sovereign legislation but of commercial custom and the decisions of merchant courts, and they achieved a remarkable degree of cross-jurisdictional uniformity precisely because they were grounded in the practical necessities of maritime commerce rather than in the particular legal traditions of any one state.

This origin in commercial custom rather than sovereign legislation is a jurisprudentially significant feature of maritime commerce law that distinguishes it from most other bodies of private law and that continues to influence its character and its interpretation. Maritime commerce law has always retained a strong element of customary practice and commercial reasonableness as legal norms, and its interpretation by courts has historically been more deferential to commercial usage and the expectation of the parties than the interpretation of statutory law in civil law or common law systems tends to be. The great English admiralty judge Lord Mansfield, who served as Lord Chief Justice from 1756 to 1788 and who is widely regarded as the father of modern commercial law in the English-speaking world, explicitly grounded his reformulation of commercial law in the customs and usages of merchants, treating merchant custom as the source of commercial legal norms that the courts' role was to identify and apply rather than to create. This approach was applied with particular force to maritime commerce, and it established a tradition of judicial deference to commercial practice in maritime law that persists in the common law tradition and that has significantly shaped the admiralty jurisprudence of Bangladesh, which, as a former part of British India, inherited this common law maritime tradition.

The Bay of Bengal region had its own parallel tradition of maritime commercial law that deserves recognition alongside the European tradition. The commercial law of the Arab traders who dominated Indian Ocean commerce from the seventh to the fifteenth century, the legal codes of the Chola empire that governed maritime trade in the Bay of Bengal, and the adat law of the Malay maritime trading communities all contained sophisticated rules governing maritime commercial relationships. The Bengal coast, as discussed in Part One of this commentary, was a major centre of Indian Ocean commerce for many centuries, and the Bengali and Bengali-Muslim merchant communities that conducted this commerce must have had legal frameworks governing their commercial relationships, even if these frameworks were not codified in the European manner and have not survived in the historical record with the same clarity as the European maritime codes. The absence of these traditions from the dominant narratives of maritime commerce law history is a reflection of the Eurocentrism of the discipline and not of any absence of sophisticated commercial legal practice in the Bay of Bengal region.

1.2 The Positivist Turn: Codification, International Standardisation, and the Role of the IMO

The transition from customary maritime commerce law to codified, state-made law was gradual and is still, in important respects, incomplete. The nineteenth century saw the systematic codification of maritime commerce law in the national legislation of the major maritime nations: the Merchant Shipping Act of the United Kingdom of 1854, subsequently consolidated and revised in the Acts of 1894 and 1995; the Codes of Commerce of France and Germany; and the successive statutes of the United States governing navigation and shipping. These national codifications drew heavily on the pre-existing lex maritima tradition but reorganised it within the framework of national law, making it subject to sovereign interpretation and enforcement and introducing elements of public law regulation, particularly in relation to ship safety, alongside the private law rules governing commercial relationships.

The proliferation of conflicting national maritime laws in the late nineteenth and early twentieth centuries created serious practical problems for international maritime commerce. Ships carrying goods between different countries were subject to different legal regimes in different ports, and the absence of uniform rules created legal uncertainty that increased the costs and risks of international trade. The response to this problem was a long process of international harmonisation of maritime commerce law, conducted through a combination of treaty-making under the auspices of the Comite Maritime International (CMI), the private international organisation of maritime law associations, and later through the regulatory work of the International Maritime Organisation (IMO), the specialised agency of the United Nations responsible for the safety and security of international shipping and the prevention of marine pollution from ships.

The IMO, established by the Convention on the International Maritime Organization of 1948 and entering into force in 1958, has become the central institution of the international maritime commerce legal framework. Through its legislative work, including the adoption of major conventions such as the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), the International Convention on Load Lines, and the Convention on Facilitation of International Maritime Traffic, the IMO has created a comprehensive body of international public law governing the safety, security, and operational standards of commercial shipping. These instruments, supplemented by the MARPOL framework discussed in Part Fourteen, constitute what is effectively an international code of shipping law that all states are obligated to implement in their domestic legislation as a condition of their membership of the international maritime community.

The jurisprudential character of IMO-generated international maritime law is distinct from both the lex maritima tradition of commercial custom and the national codification tradition of the nineteenth century. IMO conventions are negotiated and adopted through the processes of intergovernmental diplomacy, subject to the political constraints and compromises that characterise all international lawmaking. Their interpretation is subject to the general principles of treaty interpretation under the Vienna Convention on the Law of Treaties, and disputes about their interpretation are resolved through the mechanisms provided in each convention or, in the absence of specific provisions, through general international law. The relationship between IMO conventions and domestic maritime law is typically one of implementation: states are expected to enact domestic legislation giving effect to their IMO obligations, and compliance is monitored through the IMO's audit scheme and through the port state control system, which allows port states to inspect foreign vessels calling at their ports for compliance with IMO standards.

The IMO's legislative process has been criticised from multiple perspectives. From the perspective of efficiency, the consensus-based decision-making process of the IMO can be slow to produce agreement on new standards, particularly when the shipping industry's commercial interests and the interests of maritime states diverge significantly. The example of the IMO's approach to greenhouse gas emissions from shipping illustrates this tension: despite the scientific consensus on the urgency of decarbonising the shipping industry, which accounts for approximately 2.5 to 3 percent of global greenhouse gas emissions, the IMO's greenhouse gas strategy has been criticised by environmental organisations and by climate-vulnerable

developing states, including Bangladesh, as insufficiently ambitious. The IMO's 2023 Revised Strategy on Reduction of GHG Emissions from Ships, which aims to achieve net-zero GHG emissions from international shipping close to 2050, represents a significant strengthening compared to the initial 2018 Strategy, but many experts regard even the revised strategy as inadequate in light of the Paris Agreement's temperature goals and the obligations confirmed in the 2024 ITLOS Advisory Opinion.

From the perspective of equity, the IMO's standard-setting processes have been criticised for being dominated by the interests of major flag states and the shipping industry, and for insufficient representation of the interests of developing coastal states, labour interests, and environmental advocates. Bangladesh, as a developing state with a growing but still relatively modest role in the international shipping community, has limited influence in the IMO's technical committees and subcommittees where the detailed content of international standards is negotiated, and this limited influence constrains its ability to shape the development of international maritime standards in ways that reflect its specific interests and circumstances.

1.3 The Theory of the Ship as a Legal Entity: Personhood, Nationality, and the Social Contract of the Flag

The ship is one of the most jurisprudentially complex objects in the law. It is simultaneously a movable chattel, subject to the ordinary rules of property law, and a quasi-sovereign space, subject to the law of its flag state, and a commercial instrument, operating under contracts of carriage, charter, and insurance; and an environmental actor, regulated by an elaborate framework of international and domestic pollution control standards. The legal complexity of the ship reflects the physical complexity of its existence: a ship is an object that moves through different jurisdictions, that operates in the spaces between sovereignties, that carries on board a community of persons subject to its own internal governance structure, and that engages in commercial relationships across the entire globe.

The concept of a ship's nationality, expressed through its flag, is the foundational organising principle of maritime shipping law. Each ship must be registered under the flag of a state, and that state, the flag state, is responsible under international law for the ships entitled to fly its flag. The flag state exercises jurisdiction and control over its ships in matters of registry, nationality, safety, crew conditions, and environmental compliance. The ship, wherever it sails on the high seas, carries with it the authority and the obligations of its flag state.

The philosophical foundation of the flag state principle is a form of social contract theory applied to the maritime context: the flag state confers on the ship the protection of its sovereignty, the right to navigate the high seas under the protection of its laws and of the international community's rules governing ships of that nationality, and in return the ship and its owner undertake to comply with the laws and standards of the flag state and with the international obligations that the flag state has undertaken. This social contract relationship is what distinguishes a ship from an unregulated vehicle of commercial exploitation and makes it a participant in the international community of maritime commerce.

The development of open registries, or flags of convenience, has profoundly complicated and, many argue, corroded the social contract of the flag. Open registries are maintained by states that allow ships owned by nationals of other states to register under their flag, in exchange for registration fees and annual charges, without requiring any genuine connection between the ship and the flag state. Panama, Liberia, Marshall Islands, the Bahamas, and several other states operate the principal open registries, and together they account for the majority of the world's merchant fleet tonnage. The appeal of open registries to shipowners is their combination of low fees, minimal regulatory requirements, and freedom from the labour standards and tax obligations of the shipowner's home state. The consequence, from the perspective of international maritime law, is a system in which the responsibility of the flag state for ensuring compliance with international maritime standards is frequently not matched by the practical capacity or willingness to exercise that responsibility, with the result that substandard ships operated by unscrupulous owners can find flags of convenience with minimal regulatory oversight.

For Bangladesh, the flag of convenience system has both direct and indirect implications. Directly, the large number of Bangladeshi seafarers employed on ships registered in open registries means that a significant proportion of the Bangladeshi maritime labour force is employed under conditions that may fall below the standards of the Maritime Labour Convention and that are difficult for Bangladesh, as the seafarers' state of nationality, to effectively monitor or enforce. Indirectly, Bangladesh's own efforts to develop a national shipping fleet and to establish its flag as a credible maritime registry are constrained by competition from open registries that offer lower costs at the price of weaker regulatory standards.

The concept of genuine link, which UNCLOS Article 91 requires between a state and ships flying its flag, was intended to address the flag of convenience problem by requiring a real connection between the state and the ship. However, the concept of genuine link has never been given precise legal content by international courts or tribunals, and the practice of states has not effectively constrained the development of open registries. The Nottebohm case, in which the International Court of Justice interpreted the genuine link requirement in the context of the nationality of persons, provides some jurisprudential guidance, but its application to ships is contested. The UNCLOS provision on genuine link has been largely inoperative in practice, and the flag of convenience system continues to flourish despite widespread criticism from maritime labour organisations, environmental advocates, and the governments of seafarer-supplying states.

1.4 Maritime Law and Contractual Freedom: The Tension Between Autonomy and Regulation

Maritime commerce law occupies a distinctive position in the broader theory of private law because of the extreme tension it embodies between the principle of contractual freedom and the principle of mandatory regulatory standards. On the one hand, maritime commerce has historically been characterised by a very high degree of contractual freedom: the parties to maritime transactions, shipowners, charterers, cargo owners, and insurers, have traditionally been assumed to be sophisticated commercial actors capable of negotiating the terms of their commercial relationships without the paternalistic protection of mandatory rules. The principle

of freedom of contract has therefore been applied in maritime law with a degree of stringency that exceeds its application in many other areas of private law.

On the other hand, maritime commerce involves risks and relationships of a character that creates powerful arguments for mandatory regulation. The risks of maritime commerce to life and limb, to the environment, and to the interests of third parties who are not parties to the principal commercial contracts, including cargo receivers, port communities, and the public generally, are sufficiently severe to justify mandatory safety and environmental standards that override the freedom of contract of the commercial parties. The international maritime conventions developed under the IMO framework are, in large part, expressions of this recognition: they impose minimum standards of safety, environmental protection, and seafarer welfare that cannot be contracted away, however willing the parties to any particular transaction might be to do so.

The tension between contractual freedom and mandatory regulation is not merely theoretical; it has been the subject of sustained litigation and academic debate in maritime law. The question of whether shipowners can limit their liability for cargo damage through bill of lading clauses, and the extent to which such clauses are enforceable, has generated a vast body of case law and a series of international conventions, including the Hague Rules of 1924, the Hague-Visby Rules of 1968, and the Hamburg Rules of 1978, each reflecting a different allocation of responsibility between shipowners and cargo interests and a different balance between contractual freedom and mandatory protection for shippers. Bangladesh is a party to the Carriage of Goods by Sea Act of 1925, which gives domestic effect to the Hague Rules, and this legislative choice, now a century old, reflects the allocation of risk between shipowners and cargo interests that prevailed in the period of British imperial commercial hegemony and that has not been updated to reflect the subsequent evolution of international cargo liability law.

The question of whether Bangladesh should ratify the Rotterdam Rules, the 2008 Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, which represents the most recent and most comprehensive attempt at international harmonisation of cargo liability law, is one of the specific legislative questions that a comprehensive maritime law reform must address. The Rotterdam Rules update the Hague-Visby framework to reflect the realities of modern containerised shipping, electronic bill of lading documentation, and multimodal transport, and their adoption would bring Bangladesh's cargo liability law into conformity with the most advanced current international standards.

CHAPTER 2: THE INTERNATIONAL FRAMEWORK OF SHIPPING LAW: IMO CONVENTIONS, STANDARDS, AND BANGLADESH'S OBLIGATIONS

2.1 The Architecture of International Shipping Law: SOLAS, STCW, and the Conventions of Safety

The international framework of shipping law is built on a complex architecture of conventions, protocols, codes, and guidelines developed through the IMO and other international bodies. The

most important conventions governing the safety of commercial shipping, and therefore the most directly relevant to Bangladesh's obligations and compliance, are the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and the International Convention on Load Lines.

SOLAS, first adopted in 1914 following the sinking of the Titanic and subsequently revised in 1929, 1948, 1960, and comprehensively in 1974, is widely regarded as the most important international treaty governing maritime safety. The 1974 SOLAS Convention, with its 1978 and 1988 protocols and numerous amendments adopted through the IMO's Assembly and Maritime Safety Committee, establishes comprehensive standards for the structural integrity of ships, fire protection and firefighting, life-saving appliances, radio communications, navigation safety, carriage of cargoes, nuclear ships, and specific safety measures for different types of vessels. The Convention's tacit amendment procedure, by which amendments to its annexes enter into force automatically unless a specified number of states object within a specified period, has allowed the Convention to be updated with relative speed and regularity, keeping it broadly current with technological developments and lessons learned from maritime accidents.

Bangladesh is a party to SOLAS, and its obligations under the Convention require it to ensure, as a flag state, that all ships flying the Bangladesh flag comply with SOLAS standards, and to enforce compliance by foreign vessels with SOLAS standards through its port state control regime when those vessels call at Bangladesh's ports. The domestic implementation of SOLAS requirements is the responsibility of the Department of Shipping, which surveys and certifies Bangladeshi-flagged vessels, and of the Mercantile Marine Department, which handles seafarer certification and related administrative functions. The Bangladesh Merchant Shipping Ordinance of 1983 and its successor legislation provide the domestic legal basis for SOLAS implementation.

The critical assessment of Bangladesh's compliance with SOLAS is complicated by the limited availability of systematic compliance data. The Paris Memorandum of Understanding on Port State Control and the Tokyo MOU on Port State Control in the Asia Pacific Region, to which Bangladesh is a party, publish annual reports containing data on detention rates and deficiency categories for ships inspected by member states, and these reports provide some indication of the state of SOLAS compliance in the shipping using Bangladesh's ports and among Bangladesh-flagged vessels inspected in foreign ports. Bangladesh's performance in port state control inspections has been a mixed picture, with some improvement in recent years but continuing concerns about the safety standards of a portion of the fleet operating under the Bangladesh flag.

The STCW Convention, first adopted in 1978 and comprehensively revised by the Manila Amendments of 2010, establishes minimum standards for the training, certification, and watchkeeping of seafarers. The Convention is directly relevant to Bangladesh as a major supplier of seafarers to the global shipping industry: there are an estimated 50,000 to 60,000 Bangladeshi seafarers serving on international vessels, making Bangladesh one of the world's significant seafarer-supplying countries. The quality and international recognition of certificates issued by Bangladesh's maritime training institutions is therefore of major economic importance to

Bangladesh, since the employment prospects and earning capacity of Bangladeshi seafarers in the global market depend in large part on the international acceptability of their certificates.

Bangladesh maintains a list of maritime training institutions that are recognised by the IMO as compliant with STCW standards, and the country has a Merchant Marine Training Centre, a Bangladesh Marine Academy, and a number of private maritime training institutions. The quality of maritime training in Bangladesh has improved significantly over the past decade, reflecting government investment in educational infrastructure and the growing commercial importance of seafarer remittances. However, concerns have been raised about the standards of some private maritime training institutions, about the adequacy of training simulators and practical training facilities, and about the effectiveness of the examination and certification system. A comprehensive maritime law reform must include strengthening of the regulatory framework for maritime education and training, ensuring that Bangladesh's seafarer certification system fully meets STCW standards and maintains its international credibility.

2.2 MARPOL and Bangladesh's Port State Control Obligations

The MARPOL Convention, discussed in the context of marine environmental law in Part Fourteen, has particular importance in the shipping law context because of its implications for Bangladesh's role as both a flag state and a port state. As a flag state, Bangladesh is responsible for ensuring that ships flying the Bangladesh flag comply with MARPOL's pollution prevention standards in all their operations, including operations outside Bangladesh's maritime zones. As a port state, Bangladesh is responsible for enforcing MARPOL's standards on foreign vessels calling at Bangladesh's ports and for providing adequate port reception facilities for ship-generated wastes.

The port state control function is operationally one of the most important dimensions of Bangladesh's maritime governance responsibilities. Port state control inspections of foreign vessels provide the practical mechanism through which international maritime standards, including SOLAS, STCW, MARPOL, and the Maritime Labour Convention, are enforced on a day-to-day basis. Bangladesh's port state control authority is the Department of Shipping, which carries out inspections of foreign vessels at Chittagong, Mongla, and other ports. The effectiveness of these inspections depends on the number, training, and equipment of port state control officers, and on the legal framework for taking enforcement action against substandard vessels, including the power to detain vessels until identified deficiencies are rectified.

The assessment of Bangladesh's port state control performance in publicly available data from the Tokyo MOU reveals a pattern that is broadly consistent with Bangladesh's level of maritime development: the inspection rate and the quality of inspections have improved over the period of the last decade, but there remain concerns about the training and qualification of port state control officers and about the consistency of inspection practices across different ports and officers. A comprehensive maritime law reform should include specific provisions on the training, certification, and powers of port state control officers, as well as on the procedures for vessel detention and the appeal rights of detained vessel operators.

2.3 The Maritime Labour Convention 2006 and Bangladesh's Seafarer Welfare Obligations

The Maritime Labour Convention of 2006, which entered into force in August 2013 and has been described as the fourth pillar of the international maritime regulatory framework alongside SOLAS, MARPOL, and STCW, establishes comprehensive standards for the working and living conditions of seafarers. The Convention consolidates and updates the numerous earlier ILO maritime labour conventions, replacing most of them with a single comprehensive instrument organised around five titles covering minimum requirements for seafarers, conditions of employment, accommodation, recreational facilities, food and catering, health protection, medical care, welfare and social security protection, and compliance and enforcement.

Bangladesh ratified the Maritime Labour Convention in 2014, becoming one of the relatively early ratifying states among the major seafarer-supplying nations. Ratification of the MLC creates domestic legal obligations to implement its standards through national legislation and to enforce compliance by vessels flying the Bangladesh flag in all their operations, as well as compliance by foreign vessels calling at Bangladesh's ports. Bangladesh's compliance with MLC ratification obligations has been assessed as incomplete in several respects. The domestic legislation implementing the MLC is fragmented across several instruments, and the comprehensive incorporation of MLC standards into a single, integrated piece of legislation remains incomplete. The enforcement of MLC standards through port state control inspections at Bangladesh's ports is developing but still patchy.

The most significant MLC-related concern in Bangladesh's specific maritime context is the protection of Bangladeshi seafarers employed on foreign-flagged vessels, particularly those registered in open registries with minimal regulatory oversight. These seafarers are employees of foreign shipping companies, subject to the laws of the flag state and to the terms of their employment agreements, and they may have limited practical access to the labour law protections of their home state. The MLC creates a flag state responsibility for the conditions of seafarers on board, which in principle protects Bangladeshi seafarers regardless of the flag under which they serve, but the practical enforcement of this responsibility by open registry states with limited regulatory capacity or will is notoriously weak.

Bangladesh, as the state of nationality of a large number of seafarers, has a recognised interest under the MLC in the working conditions of its nationals employed on foreign vessels, but the international legal framework does not clearly establish the juridical basis for Bangladesh's intervention on behalf of its seafarer nationals when they are employed on foreign-flagged vessels subject to the laws of another state. The development of a more robust framework for the protection of seafarer nationals employed on foreign-flagged vessels, through bilateral labour agreements, through the strengthening of seafarer recruitment regulations, and through active participation in the MLC's port state control mechanism, is an important element of the maritime law reform agenda.

2.4 The International Convention on Civil Liability for Bunker Oil Pollution Damage and the Framework of Vessel-Source Pollution Liability

The international framework of civil liability for ship-source pollution is a significant dimension of maritime commerce law that connects directly with the marine environmental law discussion in Part Fourteen. The International Convention on Civil Liability for Oil Pollution Damage of

1969 and its 1992 Protocol, the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage of 1971 and its 1992 Protocol, and the International Convention on Civil Liability for Bunker Oil Pollution Damage of 2001 together establish the principal international framework for the liability and compensation of victims of ship-source oil pollution.

Bangladesh's position in relation to these instruments is incomplete. Bangladesh is a party to the CLC 1992 Protocol and the Fund Convention 1992 Protocol, which govern liability and compensation for oil pollution from persistent oil carried in bulk as cargo by tankers. These instruments create a system of strict liability for the shipowner for pollution damage, backed by mandatory insurance requirements and supplemented by the international compensation fund, providing a reliable source of compensation for pollution victims regardless of whether the shipowner is financially capable of meeting the liability. The practical importance of this framework for Bangladesh is significant, given the volume of oil tanker traffic in the Bay of Bengal and the vulnerability of Bangladesh's coastal communities to oil pollution damage.

However, Bangladesh is not yet a party to the Bunker Convention of 2001, which governs liability for pollution damage caused by bunker fuel (the fuel used for the ship's own propulsion, as opposed to oil carried as cargo). This gap in Bangladesh's international liability framework means that victims of pollution damage from bunker fuel spills by non-tanker vessels in Bangladeshi waters may not have the same access to compensation as victims of tanker pollution. The accession of Bangladesh to the Bunker Convention should be a priority of the maritime law reform agenda.

Bangladesh is also not a party to the HNS Convention on Hazardous and Noxious Substances, which governs liability for pollution damage from the carriage of chemicals and other hazardous materials by sea. Given the volume of chemical cargo that transits through Bangladesh's ports and the potential severity of an HNS pollution incident, the accession to and implementation of the HNS Convention is a further priority.

CHAPTER 3: THE BANGLADESH MERCHANT SHIPPING ORDINANCE 1983 AND THE 2020 ACT: LEGISLATIVE HISTORY, CRITICAL ANALYSIS, AND THE REFORM IMPERATIVE

3.1 The Legislative History: From Colonial Inheritance to the 1983 Ordinance

The history of Bangladesh's merchant shipping legislation begins not in 1983 but long before. The legal framework governing merchant shipping in what is now Bangladesh was, for most of its modern history, the British Indian law, derived principally from the United Kingdom's Merchant Shipping Acts and adapted for the Indian context. The Merchant Shipping Act of the United Kingdom of 1894, which was the comprehensive consolidation of English maritime law at the height of British maritime supremacy, was applied to British India with modifications and became the foundational text of shipping law in the subcontinent.

When British India was partitioned in 1947, the successor state of Pakistan inherited this body of law, and East Pakistan, which became Bangladesh in 1971, was governed by the same inherited legal framework. The newly independent government of Bangladesh, faced with the enormous challenges of building a state from scratch in the aftermath of the liberation war, did not immediately undertake a comprehensive revision of the inherited shipping law. The 1974 Territorial Waters and Maritime Zones Act, as discussed in Part One, addressed the framework of Bangladesh's maritime zones, but the detailed governance of merchant shipping remained under inherited colonial legislation for more than a decade.

The Bangladesh Merchant Shipping Ordinance of 1983 was promulgated during the administration of President Hussain Muhammad Ershad, under whose government a significant number of ordinances were issued in areas where comprehensive legislative reform had been deferred. The 1983 Ordinance was intended to consolidate and amend the law relating to merchant shipping, drawing on the UNCLOS framework that was being finalised at the time and on the evolving international maritime conventions. It covers a broad range of topics including the registration and nationality of ships, the survey and certification of ships for safety compliance, the manning and certification of seafarers, the working conditions of seamen, the carriage of goods by sea, collision regulations, wreck and salvage, pollution prevention, and admiralty jurisdiction.

The 1983 Ordinance, for its time, was a relatively comprehensive instrument. But it was drafted in a legislative environment that was fundamentally different from the current one. In 1983, UNCLOS had not yet entered into force; the Manila Amendments to STCW had not yet been adopted; the Maritime Labour Convention was still more than two decades in the future; the environmental standards of MARPOL were in their early stages of development; the ship-breaking industry at Sitakunda had not yet grown to its current massive scale; and the digital revolution in maritime communications and navigation had not yet occurred. The Ordinance's provisions on many of these subjects are therefore either absent, inadequate, or expressed in terms that have been overtaken by subsequent international developments.

The most significant structural deficiency of the 1983 Ordinance is its failure to provide an adequate domestic implementation framework for the body of IMO conventions to which Bangladesh is a party. The Ordinance contains provisions authorising the government to make regulations for the implementation of international maritime conventions, but these provisions are expressed in general terms and do not ensure systematic or timely implementation. The result is a gap between Bangladesh's international obligations under IMO conventions and the domestic legal framework that is supposed to give effect to those obligations. This compliance gap is not merely an abstract legal problem; it has practical consequences for the safety of Bangladesh-flagged vessels, the quality of Bangladesh's port state control regime, and the international standing of Bangladesh as a maritime state.

3.2 The Bangladesh Merchant Shipping Act of 2020: Progress and Continuing Inadequacies

The Bangladesh Merchant Shipping Act of 2020, which was drafted with substantial technical assistance from the IMO and with the participation of shipping industry stakeholders and legal

experts, represents a significant advance over the 1983 Ordinance. The 2020 Act is more comprehensive, better structured, and more closely aligned with current international maritime standards than the instrument it is intended to replace. Key improvements include the establishment of a National Maritime Council as a high-level coordinating body for maritime policy, more detailed provisions on seafarer certification and training, improved provisions on ship inspection and survey, a strengthened framework for port state control, and provisions on maritime security reflecting the post-September 2001 framework of the ISPS Code (the International Ship and Port Facility Security Code) adopted in 2002.

The 2020 Act also addresses maritime liens and mortgages in considerably more detail than the 1983 Ordinance, providing a clearer framework for the secured financing of ships and for the priority of claims against ships in admiralty proceedings. This improvement is significant for the development of Bangladesh's domestic shipping finance sector, which has been constrained by the legal uncertainties of the previous framework.

However, the 2020 Act, while an improvement, does not fully resolve the deficiencies of Bangladesh's merchant shipping legal framework. It has not entered into full force as a complete replacement for the 1983 Ordinance, creating a transitional situation in which both instruments are partially operative in a manner that generates legal uncertainty. The Act's provisions on environmental standards, while improved, do not fully integrate the MARPOL framework or the emerging framework of greenhouse gas emission reduction obligations discussed in Part Fourteen. The Act's labour provisions do not fully implement the Maritime Labour Convention's standards. And the Act's treatment of admiralty jurisdiction, while more detailed than the 1983 Ordinance, does not adequately address the complex international framework of maritime claims established by the International Convention on Arrest of Ships of 1999 and by the jurisprudence of international maritime courts.

The most critical structural deficiency of both the 1983 Ordinance and the 2020 Act is the absence of a comprehensive regulatory framework for the ship-breaking industry at Sitakunda. This is a profoundly significant omission given that Bangladesh is consistently among the top three ship-breaking nations in the world by tonnage, that the Sitakunda beach-breaking facilities employ tens of thousands of workers under conditions that have been widely documented as dangerous and environmentally harmful, and that the Hong Kong Convention on Safe and Environmentally Sound Recycling of Ships, which entered into force in June 2025, creates specific international obligations for ship recycling states. The failure to address ship-breaking in the main body of merchant shipping law is a legislative gap of major importance that this commentary addresses in detail in Chapter 12 below.

3.3 The Problem of Legal Fragmentation in Bangladesh's Shipping Law Framework

One of the most practically significant deficiencies of Bangladesh's shipping law framework is its fragmentation across multiple legislative instruments and administrative agencies. The governance of maritime commerce in Bangladesh involves, among other bodies, the Ministry of Shipping (now the Ministry of Shipping under the current government), the Department of Shipping, the Mercantile Marine Department, the Chittagong Port Authority, the Mongla Port Authority, the Payra Port Authority, the Bangladesh Inland Water Transport Authority, the

Bangladesh Inland Water Transport Corporation, the Bangladesh Coast Guard, and the Bangladesh Navy, as well as sector-specific agencies dealing with oil and gas offshore operations, fisheries, and environmental protection. Each of these bodies operates under its own legislative mandate, with its own institutional culture, its own administrative procedures, and its own relationship with the political executive.

This fragmentation creates numerous practical problems. Overlapping jurisdictions generate confusion about which body is responsible for which regulatory function, and can create opportunities for regulated entities to exploit the gaps between jurisdictions. Conflicting regulatory standards, where different bodies impose different requirements on the same activity, create compliance costs and legal uncertainty. The absence of effective coordination mechanisms means that policy decisions made by one agency often have unintended consequences for the mandates and operations of others. And the multiplication of administrative bodies multiplies the opportunities for bureaucratic delay, rent-seeking, and corruption that are endemic risks in governance systems of this kind.

The solution to the fragmentation problem is not simply the abolition of existing agencies and their replacement by a single all-encompassing maritime authority, which would be politically and administratively impractical, but the creation of an effective institutional coordination mechanism, supported by clear legislative provisions allocating responsibilities among the relevant bodies, establishing coordination procedures, and providing for the resolution of jurisdictional disputes. The proposal for a Bangladesh Maritime Authority, which would serve as the coordinating umbrella for maritime governance across all sectors and zones, is discussed in detail in Chapter 13 below.

The Chittagong Port Authority (Amendment) Act Draft of 2024, referenced in the Bangladesh Ministry of Shipping's legislative agenda, and the Draft Act for the Establishment of a Matarbari Port Authority of 2024, suggest that the government is aware of the need for institutional reform in the port sector. However, piecemeal reforms of individual port authorities, without an overarching coordination framework, risk adding further complexity to an already fragmented institutional landscape rather than achieving the integrated governance that effective maritime management requires.

CHAPTER 4: PORT GOVERNANCE, CHITTAGONG, MONGLA, AND THE NEW PORT DEVELOPMENT AGENDA

4.1 The Legal Status and Governance of Ports in International Law

Ports occupy a distinctive legal position in the international law of the sea. Unlike the various maritime zones, which are areas of sea subject to different degrees of coastal state jurisdiction under UNCLOS, ports are part of the land territory of the coastal state, subject to its full and undivided sovereignty. But ports are also points of interface between the maritime and the terrestrial, between the law of the sea and the law of the land, and between the jurisdiction of the coastal state and the rights of foreign vessels under international maritime law.

The right of entry of foreign vessels into ports has been a contested question in international maritime law since the earliest period of the modern state system. Hugo Grotius, characteristically, argued that the freedom of trade and commerce required that ports be open to all nations without discriminatory restriction, grounding this position in his natural law philosophy of universal community of trade. The subsequent development of international maritime law has not fully vindicated Grotius's expansive position: states do have the right to close their ports to foreign vessels in principle, though the exercise of this right is constrained in practice by commercial treaties, by customary international law norms of non-discrimination, and by the framework of UNCLOS, which makes the right of access to ports relevant to the rights of innocent passage and transit passage through maritime zones.

The GATT framework and the World Trade Organisation agreements impose obligations of non-discrimination in the treatment of foreign vessels in ports that are relevant to Bangladesh's port governance. The 1923 International Convention and Statute on the International Regime of Maritime Ports, to which Bangladesh is not a party but which reflects broadly accepted customary standards, establishes the principle that contracting states shall grant to foreign ships treatment equal to that accorded to their own ships in the use of ports. The principle of national treatment in port access and facilities is now broadly accepted as a customary norm, though its precise content and limits are contested.

The legal framework governing port state control, discussed in Chapter 2 above, gives port states significant powers over foreign vessels in their ports that go beyond the ordinary incidents of sovereignty over territory. The right to inspect, detain, and expel substandard vessels, which is the essence of port state control, is a form of extraterritorial regulation of the flag state's compliance with international standards, exercised through the physical leverage that port access provides. The jurisprudential characterisation of port state control as a form of consensual delegation of regulatory authority by flag states to port states, rather than as a unilateral assertion of port state jurisdiction, is contested, and the precise limits of port state control powers remain a matter of some legal uncertainty. The ITLOS judgment in the M/V Saiga (No. 2) case of 1999, which addressed the use of force in maritime law enforcement and the rights of detained vessels and their crews, provides relevant guidance on the limits of enforcement action by maritime state authorities.

4.2 Chittagong Port: Legal Architecture, Institutional Structure, and Governance Challenges

Chittagong Port is the primary gateway of Bangladesh's economy to the world. It handles approximately 92 percent of Bangladesh's international trade by value, and it is one of the busiest ports in South Asia. The port's physical infrastructure includes container terminals, general cargo berths, oil terminals, and a grain terminal, and it has been expanded significantly over the past two decades to accommodate the growth of Bangladesh's export economy. The Chittagong Port Authority (CPA), established by the Chittagong Port Authority Ordinance of 1976 and subsequently reorganised through successive legislative instruments, is the statutory body responsible for the governance and management of the port.

The CPA's institutional structure and legal framework reflect the characteristics of the post-independence Bangladeshi administrative tradition: a statutory authority with a board of directors appointed by the government, extensive regulatory powers, and a dual role as both a regulatory body and a commercial enterprise operating the port's facilities. This dual role creates an inherent tension between the CPA's regulatory function, in which it sets and enforces standards for the use of the port's facilities by all parties, and its commercial function, in which it competes with private sector operators for port business. The resolution of this tension is a recurring challenge in port governance globally, and Bangladesh's approach to it has been to maintain a predominantly public sector model of port governance while gradually introducing private sector participation in specific terminal operations through concession agreements.

The Chittagong Container Terminal, operated by the CPA, and the New Mooring Container Terminal, which has been the subject of a public-private partnership arrangement, together constitute the primary container handling capacity of the port. The efficiency of container handling at Chittagong has been a persistent concern for the business community: turn-around times for container vessels at Chittagong have historically been significantly longer than at comparable regional ports, adding to the costs of Bangladesh's export industries and reducing the competitiveness of Bangladeshi exporters in global markets. The causes of this inefficiency are multiple, including physical infrastructure constraints, inefficient documentation and customs procedures, inadequate information technology systems, and governance problems including corruption and rent-seeking within the port administration.

The legal framework for the CPA's operations, including the Chittagong Port Authority Ordinance and its implementing regulations, provides the formal structure of port governance. However, the practical governance of the port involves interactions among numerous agencies, including the National Board of Revenue's Customs and Excise wing, the Bangladesh Coast Guard, the Bangladesh Navy, the various shipping agents and freight forwarding companies, and the beneficial cargo owners and carriers. The coordination of these multiple actors within the port requires a legal framework that is clear about the responsibilities of each, that provides effective coordination mechanisms, and that includes robust accountability mechanisms for addressing failures of governance.

The proposed Chittagong Port Authority (Amendment) Act of 2024 contains draft provisions that would update the governance structure of the CPA, including changes to its board composition and its financial management framework. While any improvement to the CPA's governance framework is welcome, the 2024 draft legislation, as understood from publicly available information, does not appear to address the fundamental coordination problems or the tension between the regulatory and commercial roles of the authority. A more comprehensive approach to port governance reform is needed, building on international best practices in port governance including the landlord port model that has been successfully adopted in many leading port jurisdictions.

4.3 Mongla Port: The Forgotten Gateway and the Potential for Reform

Mongla Port, located in the Bagerhat district on the Mongla River in southwestern Bangladesh, is the country's second-largest seaport and the principal maritime gateway for the southwestern

region, including the areas adjacent to the Sundarbans. The port was established in the 1950s and has historically been significantly less busy than Chittagong, partly because of its location and the depth limitations of the river channel, and partly because of less developed land transport connections to the major industrial and commercial centres of Bangladesh.

In recent years, Mongla Port has attracted renewed attention as part of the regional connectivity agenda. The port has potential significance as a point of access for landlocked Nepal and Bhutan, and for the northeastern Indian states, which could potentially use Mongla as an outlet to the sea through bilateral transit agreements. The development of road and rail connections between Mongla and these hinterland areas is a component of the regional connectivity projects associated with BIMSTEC and with Bangladesh's bilateral economic relationships with India and Nepal.

The legal framework for Mongla Port is governed by the Mongla Port Authority Act, and the governance structure parallels that of the CPA. The environmental dimensions of Mongla Port's operations deserve particular attention given the port's proximity to the Sundarbans. The Sundarbans is a UNESCO World Heritage Site and a Ramsar wetland of international importance, and the expansion of port operations at Mongla has the potential to affect the ecological integrity of this critically important ecosystem through vessel traffic, oil spills, noise, and light pollution. The legal framework for environmental impact assessment of port development activities adjacent to the Sundarbans requires strengthening, and the governance of port operations must include specific environmental management plans addressing the protection of the Sundarbans ecosystem.

4.4 Payra Port: The New Port, Its Legal Architecture, and Its Strategic Significance

The Payra Deep Sea Port, located at Rabnabad Channel in the Patuakhali district of southern Bangladesh, is the most significant maritime infrastructure development in Bangladesh in recent decades. The port was established by the Payra Port Authority Act of 2013 and has been under active development since that time, with the aim of providing Bangladesh with a deep-water port capable of handling fully loaded large vessels that cannot be accommodated at Chittagong or Mongla due to depth constraints. The development of Payra Port is a major element of Bangladesh's blue economy strategy and Vision 2041, and it has attracted significant foreign investment, particularly from China, under the framework of infrastructure development partnerships.

The legal architecture of Payra Port Authority is established by the 2013 Act, which creates an independent statutory authority with broad powers over the governance and development of the port and its surrounding zone. The Act provides for the designation of a Payra Port economic zone, potentially allowing the development of industrial and commercial activities in a special economic zone framework around the port. The interaction between the Payra Port Authority Act, the Bangladesh Export Processing Zone Authority Act, and the special economic zones framework requires careful legal mapping to ensure coherence and avoid conflicts of jurisdiction.

The construction and operation of Payra Port raises significant environmental concerns, particularly given its location in a coastal area that is ecologically sensitive and that is among the most vulnerable areas in Bangladesh to the effects of sea-level rise and increased cyclonic intensity. The environmental impact assessments conducted for the port's development have been criticised by environmental NGOs for being insufficiently rigorous and for failing to adequately assess the cumulative environmental impacts of the port's construction and operation on the coastal ecosystem. The legal framework for environmental impact assessment of major maritime infrastructure projects requires strengthening to ensure that it meets the standards of due diligence articulated in the 2024 ITLOS Advisory Opinion.

The geopolitical dimensions of Payra Port's development, particularly the significant involvement of Chinese state-owned enterprises in its construction, require legal analysis from the perspective of investment law, security law, and the law of the sea. The implications of foreign-financed infrastructure development in Bangladesh's coastal zone for the exercise of Bangladesh's sovereignty over its maritime zones, and for its strategic autonomy in the Bay of Bengal, are subjects of ongoing discussion in the academic and policy communities. The legal framework governing foreign investment in strategic maritime infrastructure should include appropriate safeguards for Bangladesh's sovereign interests, consistent with the principle of permanent sovereignty over natural resources and with Bangladesh's UNCLOS obligations regarding the maintenance of its maritime zones.

CHAPTER 5: FLAG STATE RESPONSIBILITIES AND THE BANGLADESH SHIP REGISTRY

5.1 The International Obligations of Flag States: UNCLOS Article 94 and its Demands

UNCLOS Article 94 imposes comprehensive obligations on flag states to exercise effective jurisdiction and control over ships flying their flag. The Article requires the flag state to maintain a register of ships sailing under its flag, to assume jurisdiction under its internal law over its ships in administrative, technical, and social matters, and in particular to take measures to ensure safety at sea with regard to the construction, equipment, and seaworthiness of ships; the manning of ships, labour conditions, and the training of crews; the use of signals, the maintenance of communications, and the prevention of collisions. Article 94 also requires the flag state to take necessary measures to ensure that ships flying its flag do not cause pollution of the marine environment and to comply with applicable international rules and standards.

These obligations of effective jurisdiction and control are the foundation of the flag state's responsibilities in the international maritime order, and their effective discharge is a precondition for Bangladesh's credibility as a maritime state. The standard of effective jurisdiction and control established by Article 94 is demanding: it requires not merely the formal enactment of relevant laws and regulations but the practical implementation and enforcement of those laws and regulations through adequate administrative machinery, qualified personnel, and effective enforcement mechanisms.

Bangladesh's discharge of its Article 94 obligations has been subject to periodic assessment through the IMO's Member State Audit Scheme (IMSAS), which was made mandatory for all IMO member states in 2016. The IMSAS audits assess the extent to which member states have effectively implemented the safety, environmental, and labour-related IMO conventions to which they are parties, and identify areas where implementation needs to be strengthened. Bangladesh has undergone an IMSAS audit, and the results, while not publicly disclosed in detail, have informed the government's reform agenda in the maritime sector.

The practical implementation of flag state obligations requires Bangladesh to invest in the technical capacity of its Department of Shipping and other relevant maritime administration bodies. The survey and certification of Bangladesh-flagged vessels, the verification of seafarer certificates and qualifications, the investigation of marine casualties involving Bangladesh-flagged vessels, and the exercise of administrative and disciplinary jurisdiction over masters, officers, and crews of Bangladesh-flagged vessels are all functions that require specialised maritime technical expertise and adequate institutional resources. The historical underfunding and understaffing of Bangladesh's maritime administration has been a constraint on the effective discharge of flag state obligations, and the rectification of this constraint is an essential element of the maritime law reform agenda.

5.2 The Bangladesh Ship Registry: Current Status and Reform Needs

Bangladesh's ship registry is administered by the Department of Shipping under the Merchant Shipping Ordinance. The registry is an open registry in the limited sense that foreign nationals may, with government approval, register vessels under the Bangladesh flag, but it is not a major open registry in the commercial sense: Bangladesh does not actively market itself as a flag of convenience state and does not attract large numbers of foreign-owned vessels seeking low-cost registration. The principal purpose of the Bangladesh registry is to provide a national flag for Bangladesh-owned and Bangladesh-operated commercial vessels.

The number of Bangladesh-flagged commercial vessels is relatively small compared to Bangladesh's scale of maritime trade. The development of a more substantial national merchant fleet has been an ambition of successive governments, but it has been constrained by the high capital cost of ship acquisition, the competitive dominance of established shipping companies in major liner trades, and the technical and commercial complexity of managing ocean-going vessels. The Bangladesh Shipping Corporation, the state-owned shipping company, operates a small fleet of vessels but has not expanded to a scale that would make a substantial contribution to the carriage of Bangladesh's foreign trade under the national flag.

The development of the Bangladesh ship registry as a more commercially attractive and technically credible registry, attracting quality foreign-owned tonnage that contributes to Bangladesh's maritime economy while meeting internationally recognised standards of safety and environmental compliance, is a long-term strategic objective that could be pursued through comprehensive registry reform. A reformed registry offering competitive fees, streamlined administrative procedures, and high-quality survey and certification services, backed by effective flag state enforcement, could position Bangladesh as a credible alternative to the larger open

registries. The revenues generated by a larger registry would help fund the maritime administration capacity that effective flag state enforcement requires.

5.3 Marine Casualties Investigation and the Duty of the Flag State

The investigation of marine casualties involving Bangladesh-flagged vessels is one of the most technically demanding dimensions of flag state responsibility. SOLAS Chapter XI-1 and the IMO Casualty Investigation Code require flag states to conduct fair and thorough investigations of all serious maritime casualties, including casualties involving loss of life, significant environmental pollution, or serious damage to the vessel or to other property, with the aim of identifying the causes and contributing factors of the casualty and promulgating the lessons learned for the benefit of the wider maritime community.

Bangladesh's record in marine casualty investigation has been the subject of some criticism. The investigation of a number of casualties involving Bangladesh-flagged or Bangladesh-managed vessels has been found to be less than fully thorough by international standards, and there have been cases in which the formal requirements of the Casualty Investigation Code were not fully met. The domestic legal framework for casualty investigation, which is governed primarily by provisions of the Merchant Shipping Ordinance, does not fully reflect the requirements of the IMO Code, and the investigative capacity of the Department of Shipping in terms of both the number and the qualifications of marine casualty investigators is limited.

The development of an independent Marine Accident Investigation Branch (MAIB), modelled on the independent accident investigation bodies that exist in the United Kingdom, Australia, Canada, and other major maritime states, is a reform that deserves serious consideration. Independent accident investigation, insulated from the administrative pressures of the regulatory authority responsible for the standards that may have failed, is more likely to produce thorough and candid analyses of casualty causes and to generate lessons that genuinely improve maritime safety. The legal framework for an independent MAIB, including its constitutional independence, its powers of investigation, and the legal protection of witnesses and of investigation reports, would need to be established by specific legislation.

CHAPTER 6: ADMIRALTY JURISDICTION: HISTORY, DOCTRINE, AND THE CONTEMPORARY CHALLENGE

6.1 The Historical Origins of Admiralty Jurisdiction: The Lord High Admiral and the High Court of Admiralty

The history of admiralty jurisdiction is one of the most fascinating chapters in the development of English law and, through the colonial connection, of the law of Bangladesh. The High Court of Admiralty of England, which exercised jurisdiction over maritime matters, was established in the fourteenth century as a court of the Lord High Admiral, the officer of the Crown responsible for naval and maritime affairs. In its early history, the Admiralty Court applied the lex maritima, the law merchant of the sea, rather than the common law of the royal courts, and it exercised a

wide jurisdiction over all civil and criminal matters arising on the sea, including not only commercial disputes but also matters of prize, piracy, and maritime offences.

The history of the English Admiralty Court is in large part a history of jurisdictional conflict with the common law courts. From the sixteenth century onward, the common law courts, led by the aggressive jurisdictional expansionism of Sir Edward Coke, challenged the Admiralty Court's jurisdiction over maritime contracts and torts, arguing that matters arising in connection with ships or maritime commerce but not occurring on the sea itself should be tried in the common law courts. The resulting jurisdictional battles fundamentally shaped the development of English admiralty law, limiting the Admiralty Court's jurisdiction to matters arising on the high seas and excluding from its purview many commercial transactions connected with maritime commerce.

The Judicature Acts of 1873 and 1875, which reorganised the English court system, transferred the jurisdiction of the High Court of Admiralty to the Queen's Bench Division of the High Court, where a specialist Admiralty Court was established. The Admiralty Court has developed a rich body of jurisprudence on maritime contracts, collisions, salvage, limitation of liability, and the arrest of ships, which has been enormously influential in the development of maritime law in all common law jurisdictions, including Bangladesh.

The concept of the action in rem, the distinctive procedural mechanism of admiralty law, deserves particular attention as a jurisprudential innovation of lasting importance. The action in rem allows a claimant with a maritime claim against a ship to arrest the ship and bring legal proceedings against the ship itself, rather than against the shipowner personally. This mechanism is particularly important in maritime commerce because it allows a claimant to obtain security for a claim by arresting the ship in port, forcing the owner to provide alternative security as a condition of the ship's release. The action in rem reflects the ancient legal fiction that the ship itself is the guilty party, a fiction that has practical utility even if it lacks philosophical rigor: it allows claimants to obtain security for their claims in a world where shipowners are often foreign entities that might be difficult to sue in personam.

The legal basis for actions in rem in Bangladesh is established by the Merchant Shipping Ordinance and by the courts' jurisdiction derived from the Admiralty Jurisdiction Act. The practical exercise of admiralty jurisdiction in Bangladesh is conducted by the district courts and the High Court Division of the Supreme Court, with appeals to the Appellate Division. However, the specialisation of the Bangladeshi judiciary in admiralty matters is limited: there are no designated admiralty courts with specialist judges experienced in maritime law, and the resolution of maritime disputes by courts of general jurisdiction, while legally competent, may not provide the depth of expertise and the procedural efficiency that specialist admiralty courts in major maritime jurisdictions offer.

6.2 The Arrest of Ships: International Convention and Bangladesh Law

The arrest of ships is the principal practical enforcement mechanism of admiralty law, and its effective operation is essential for the functioning of the maritime commerce legal system. The arrest allows a creditor with a maritime claim to obtain security by seizing the vessel in port, ensuring that the claim can be satisfied from the value of the ship even if the shipowner is

otherwise insolvent or elusive. Without an effective arrest mechanism, the security of maritime transactions would be significantly impaired, and the credit and insurance markets that finance maritime commerce would be correspondingly weakened.

The international framework governing the arrest of ships was established by the International Convention Relating to the Arrest of Sea-Going Ships of 1952, which Bangladesh has historically applied. The 1952 Convention was replaced for states that have ratified it by the International Convention on Arrest of Ships of 1999, which updated and expanded the earlier instrument, broadening the range of maritime claims for which arrest is available and streamlining the arrest procedure. Bangladesh has not ratified the 1999 Convention, and its arrest law therefore remains governed by the 1952 Convention and by domestic provisions of the Merchant Shipping Ordinance.

The reform of Bangladesh's arrest law to align with the 1999 Convention should be a priority of the maritime law reform agenda. The 1999 Convention provides a more comprehensive and commercially effective framework for ship arrest, better adapted to the realities of modern maritime commerce and financing structures. In particular, the Convention's provisions on the arrest of ships other than the ship to which the maritime claim relates (sister ship arrest) and on the protection of shipowners and cargo interests against improper arrest (the requirement for security against wrongful arrest) address specific problems that arise in modern maritime commerce practice.

The enforcement of admiralty judgments, including judgments ordering payment of maritime claims and judgments arising from ship arrests, requires a legal framework that provides effective mechanisms for the realisation of security and the distribution of proceeds among competing creditors. The priority of maritime claims, including the priority of maritime liens over ship mortgages and over general unsecured claims, is a technically complex area of admiralty law that the current Bangladeshi framework addresses inadequately. The detailed provisions on maritime liens and their priority in the 2020 Act, noted above, are an improvement, but the full implementation and judicial interpretation of these provisions remains to be developed through practice and case law.

6.3 Limitation of Liability: The Doctrine, the Conventions, and Bangladesh

The doctrine of limitation of liability for maritime claims is one of the most distinctive features of maritime law and one that raises profound jurisprudential questions about the relationship between commerce, risk allocation, and justice. The doctrine allows shipowners to limit their total liability for maritime claims arising from any particular incident to a specified amount calculated by reference to the tonnage of the ship, regardless of the actual losses suffered by claimants. The limitation fund is then distributed among all claimants in proportion to their claims, rather than being available to satisfy individual claims in full.

The philosophical justification for limitation of liability has been debated since the doctrine's inception. The traditional commercial argument is that maritime commerce involves such extreme risks that shipowners would not be willing to invest in shipping if they were exposed to unlimited personal liability for casualties: the sinking of a ship or a catastrophic cargo damage

incident could, without limitation, result in a liability exceeding the entire capital invested in the enterprise many times over. By limiting liability to the value of the ship, the law confines the shipowner's risk to the value of the investment, encouraging capital investment in shipping and thereby promoting the commerce on which all parties ultimately benefit. This argument is analogous to the limited liability corporation doctrine, which serves similar risk-limitation functions in the broader economy.

The critique of the limitation doctrine, particularly as applied to large passenger ship disasters involving the loss of hundreds of lives, is powerful. The Titanic disaster of 1912, the Estonia disaster of 1994, and more recently the Costa Concordia disaster of 2012, all involved limitations of liability that provided inadequate compensation for the human losses suffered. The argument that human lives should not be subject to the commercial logic of limitation, that the loss of a human life is an incommensurable harm that should not be tradeable against the commercial interests of shipowners, resonates strongly with natural law and human rights traditions in legal philosophy.

The international framework governing limitation of liability is established by the Convention on Limitation of Liability for Maritime Claims of 1976 (LLMC) and its 1996 Protocol, which have significantly increased the limits compared to earlier conventions. Bangladesh is not a party to the LLMC and its Protocol, and its limitation law remains governed by older provisions that provide substantially lower limits. The accession of Bangladesh to the LLMC 1996 Protocol, and the incorporation of its updated limitation amounts into domestic law, is a reform that would significantly improve the compensation available to victims of maritime casualties and align Bangladesh's law with contemporary international standards.

6.4 Salvage Law: The Law of Rendering Assistance and Environmental Salvage

The law of salvage, which governs the legal relationship between those who voluntarily save ships or cargo from maritime peril and the owners of the saved property, is another area of maritime law with deep historical roots and contemporary practical importance. The basic principle of salvage law is that a person who voluntarily saves property from maritime peril is entitled to a reward proportionate to the services rendered, even in the absence of any pre-existing contractual relationship with the property owner. This principle was developed as an incentive to maritime rescue: without the prospect of reward, there might be insufficient incentive for mariners to risk their own ships and lives to save others.

The modern international framework of salvage law is established by the International Convention on Salvage of 1989, which Bangladesh has incorporated into its domestic law through the Merchant Shipping Ordinance. The 1989 Convention introduced an important innovation in the treatment of environmental salvage: the special compensation provision allows a salvor who takes measures to prevent or minimise environmental damage to claim special compensation from the shipowner even if no property has been saved, addressing the problem of the traditional rule under which salvors had no financial incentive to undertake purely environmental salvage operations. This innovation is highly relevant to Bangladesh's marine environmental governance concerns, since a major vessel casualty in Bangladesh's coastal waters

or EEZ could cause severe environmental damage if salvage operations were not promptly initiated.

The development of the SCOPIC (Special Compensation Protection and Indemnity Clubs) clause as a contractual supplement to the special compensation provision of the 1989 Convention illustrates the continuing interaction between commercial practice and legal innovation in maritime law. The SCOPIC clause, developed through the commercial practice of the Protection and Indemnity (P&I) clubs that provide liability insurance for most of the world's shipping, provides a more commercially certain framework for the compensation of environmental salvage than the Convention's provisions alone. The recognition of SCOPIC clauses in Bangladesh's domestic law, and the development of the institutional and technical capacity to support effective salvage operations in Bangladeshi waters, are elements of the maritime law reform agenda that deserve attention.

CHAPTER 7: SEAFARERS' RIGHTS, THE MARITIME LABOUR CONVENTION, AND THE PROTECTION OF BANGLADESHI MARITIME WORKERS

7.1 The Seafarer as a Legal Subject: Labour Law, Human Rights, and the Distinctive Vulnerability of Maritime Workers

The seafarer occupies a distinctive and historically under-protected position in the world of work. The conditions of maritime employment have, throughout most of the history of merchant shipping, been characterised by extremes of vulnerability that have few parallels in terrestrial employment: extreme physical isolation from family, friends, and community for extended periods; subjection to the absolute authority of the ship's master while at sea; exposure to extreme physical dangers including the risks of collision, capsizing, fire, and piracy; and vulnerability to exploitation by unscrupulous shipowners and recruitment agents who can exploit the seafarer's need for employment and the distance from home that makes effective legal recourse impractical.

The history of maritime labour law is in part a history of the progressive recognition of seafarers as workers entitled to legal protection, against the resistance of a shipping industry that has historically benefited from the treatment of seafarers as a peculiarly disciplined and controllable labour force. The Merchant Seamen Act of England of 1823, the successive amendments to the British Merchant Shipping Acts, and the various ILO maritime conventions adopted from 1920 onward all represent stages in the progressive recognition of seafarers' rights. The adoption of the Maritime Labour Convention in 2006 represents the most comprehensive and the most ambitious codification of these rights that has yet been achieved.

The vulnerability of seafarers is compounded, in the case of Bangladeshi seafarers, by their economic circumstances and the power differential between them and their employers. Bangladeshi seafarers are typically from families of modest means, and the employment income and remittances of seafarers are a critically important source of family support. This economic dependency creates a situation in which seafarers may be reluctant to assert their legal rights or

to report abuse or violations of their employment conditions for fear of losing their employment and the income on which their families depend. The recruitment process, which typically involves payment of fees to recruitment agents, creates additional vulnerability, since seafarers who have paid significant recruitment fees are under pressure to accept and retain employment regardless of the conditions.

The legal framework for the protection of Bangladeshi seafarers requires a multidimensional approach that addresses recruitment practices, employment contract standards, conditions of work on board, access to justice when rights are violated, and the social security protections available to seafarers and their families. The MLC provides the international framework for all of these dimensions, and Bangladesh's implementation of the MLC must be comprehensive and effective if the legal rights that the Convention establishes are to be a practical reality for Bangladeshi seafarers.

7.2 Recruitment and Placement of Seafarers: The Legal Framework and its Gaps

The recruitment and placement of seafarers is governed in Bangladesh primarily by regulations under the Merchant Shipping Ordinance, which provide for the licensing of seafarer recruitment agencies and impose conditions on their operations. The system has been subject to considerable criticism. Unlicensed recruitment intermediaries, fraudulent job offers, excessive recruitment fees, and misrepresentation of the terms and conditions of employment are problems that have been documented by NGOs working with seafarers and by investigative journalism. The legal framework for the prosecution of fraudulent recruitment agents and for the protection and compensation of seafarers who have been deceived is inadequate.

The MLC's Regulation 1.4 on Recruitment and Placement establishes minimum standards for seafarer recruitment agencies, including prohibitions on charging recruitment fees to seafarers, requirements for insurance against the failure to meet contractual obligations, and specific protections for seafarers in cases where the employer fails to perform employment contracts. Bangladesh's domestic implementation of these standards requires a comprehensive review and strengthening of the seafarer recruitment regulation framework, including enhanced licensing conditions for recruitment agencies, a seafarer recruitment fee prohibition, and a compensation mechanism for seafarers victimised by fraudulent recruitment practices.

The creation of a Bangladeshi Seafarers' Welfare Fund, drawing on levies on seafarer recruitment agencies and contributions from the shipping industry, could provide a sustainable financial basis for seafarer welfare services including shelters for stranded seafarers, legal assistance for seafarers in disputes with their employers, and welfare payments in cases of maritime casualties. Several seafarer-supplying states, including the Philippines, which has the most developed framework for the protection of seafarer nationals, operate analogous funds with demonstrable benefit to seafarer welfare.

7.3 The Employment of Seafarers Under the MLC: Contracts, Standards, and Enforcement

The MLC's Title 2, on conditions of employment, establishes minimum standards for seafarers' employment agreements, wages, hours of work and rest, entitlement to leave, repatriation, compensation in cases of ship loss or foundering, and crewing and career development. These standards represent a comprehensive framework of labour protection that, if fully implemented and enforced, would significantly improve the conditions of the large numbers of seafarers employed on ships managed or owned by Bangladesh-connected entities.

The minimum wage for able seamen, established by the Joint Maritime Commission of the ILO and periodically revised, provides a floor for the wages of seafarers that all MLC-ratifying states are obligated to implement. Bangladesh's domestic legislation implementing this minimum wage standard requires strengthening, particularly in relation to the enforcement of the standard against employment contracts that may formally comply but in practice allow deductions and conditions that reduce the effective wage below the minimum. The issue of wage theft from seafarers, where employers make unauthorised deductions from wages or simply fail to pay wages owed, is a documented problem in parts of the maritime industry, and the legal framework for addressing it must include effective remedies that are accessible to seafarers who are typically abroad when the violation occurs.

The MLC's requirements regarding hours of work and rest are among its most safety-critical provisions. Fatigue is a recognised factor in a significant proportion of maritime accidents, and the rules limiting maximum hours of work and establishing minimum rest periods are designed to ensure that seafarers are adequately rested and alert when performing safety-critical tasks. The practical enforcement of hours of work and rest requirements is challenging because the records are maintained by the ship operator and the verification of compliance by external inspectors depends on the reliability of those records. The use of electronic recording systems and port state control inspection of rest hour records is the primary mechanism for enforcement, and Bangladesh's domestic framework and its port state control practice in this area require strengthening.

The repatriation provisions of the MLC are of particular practical importance for Bangladeshi seafarers, who may find themselves stranded in foreign ports in circumstances where the shipowner has become insolvent, has abandoned the ship, or has simply failed to provide for the repatriation of the crew. The MLC requires flag states to ensure that seafarers have a right of repatriation at no cost to themselves and that financial security is in place to cover repatriation costs in all cases. Bangladesh's framework for ensuring the effective exercise of repatriation rights, including the procedures for the consular assistance of stranded seafarers and the financial guarantees required from shipowners operating under the Bangladesh flag, requires comprehensive review and strengthening.

7.4 Seafarer Social Security and the Protection of Families

The social security of seafarers and their families is a dimension of maritime labour law that has historically been severely underdeveloped, reflecting the offshore character of seafarer employment and the consequent difficulty of integrating seafarers into national social security systems. Seafarers employed on foreign-flagged vessels are typically not covered by the social security systems of either the flag state or their state of nationality, creating a situation of

systematic social security deprivation that the MLC's Title 4 on health protection, medical care, welfare and social security protection seeks to address.

Bangladesh's domestic social security system does not adequately cover seafarers employed on foreign-flagged vessels. The development of a dedicated maritime social security scheme for Bangladeshi seafarers, providing coverage for work-related injuries, occupational diseases, death benefits, and long-term disability, is an important welfare objective that the maritime law reform agenda should address. Several models exist: the Philippines' Overseas Workers Welfare Administration and its maritime-specific programmes provide one model; the bilateral social security agreements that some seafarer-supplying states have concluded with major flag states provide another. Bangladesh should explore both approaches.

The gender dimensions of seafarer social security deserve particular attention. The families of seafarers, who are primarily women and children, are the principal beneficiaries of seafarers' earnings and remittances, and they bear the social costs of the seafarers' long absences from home. When a seafarer is killed or seriously injured in a maritime accident, the financial and social consequences for the family are severe, and the adequacy of the compensation and social support available to the families of maritime casualties is a measure of the justice of the legal system. Bangladesh's current framework of compensation for seafarer families, which is governed by the Workmen's Compensation Act and by the provisions of the Merchant Shipping Ordinance, is widely regarded as providing inadequate compensation for maritime casualties, particularly in cases involving death or permanent disability.

CHAPTER 8: MARINE INSURANCE, MARITIME FINANCE, AND THE LEGAL INFRASTRUCTURE OF MARITIME COMMERCE

8.1 The Law of Marine Insurance: History, Doctrine, and Its Significance for Bangladesh

Marine insurance is one of the oldest and most sophisticated forms of insurance in the history of commerce. The origin of marine insurance as a formal legal institution is usually traced to the trading cities of medieval Italy, where the earliest marine insurance contracts were drafted in the late fourteenth century. The legal framework of marine insurance, including the concepts of insurable interest, utmost good faith, indemnity, subrogation, and contribution, was developed over many centuries through the decisions of insurance courts and the practice of the Lloyd's of London insurance market, which has been the dominant centre of marine insurance globally for more than three centuries.

The fundamental principle of marine insurance is the principle of indemnity: the insured is entitled to be placed in the same financial position after a covered loss as he would have been in if the loss had not occurred, but no more. This principle is supplemented by the specific rules governing the valuation of the insured subject matter (the ship or the cargo), the allocation of losses between the insured and the insurer, and the rights of the insurer to recover from third parties (subrogation) amounts paid to the insured.

For Bangladesh, marine insurance is of enormous practical and economic importance. The cargo exported from and imported to Bangladesh, including the garments that constitute Bangladesh's principal export earner and the food grains, fuel, and industrial inputs that its economy requires, is insured under marine cargo policies, typically at the expense of the buyer or seller under the relevant terms of the international sale contract (typically CIF, Cost Insurance and Freight, for exports, and FOB, Free on Board, for many imports). The Bangladeshi importers and exporters who are parties to these insurance arrangements need access to a domestic marine insurance market that provides competitive and reliable coverage, backed by a legal framework that provides effective dispute resolution when claims arise.

The domestic marine insurance market in Bangladesh, governed primarily by the Insurance Act of 2010 and the regulations of the Insurance Development and Regulatory Authority (IDRA), provides hull and cargo insurance through a number of domestic insurers, supplemented by reinsurance in the international market. The quality and reliability of the domestic marine insurance market is a concern that has been raised by some Bangladeshi shipping and trade interests, and the improvement of the regulatory framework for marine insurance, including standards for claims handling, financial solvency, and the professional competence of insurance practitioners, is an element of the broader financial sector reform agenda that connects directly with the maritime commerce legal framework.

The law governing marine insurance disputes, including the interpretation of insurance policies, the assessment of cargo damage claims, and the resolution of disputes about coverage and liability, is an area of the law where specialised expertise and efficient dispute resolution mechanisms are essential. The development of a specialist marine insurance arbitration panel, drawing on the expertise of maritime lawyers, marine surveyors, and underwriting professionals, could significantly improve the efficiency and quality of marine insurance dispute resolution in Bangladesh.

8.2 Ship Finance and the Law of Ship Mortgages

The financing of ship acquisition is one of the most specialised areas of financial and maritime law. Ships are capital-intensive assets, and the acquisition of even a modest-sized commercial vessel requires financing of many millions of dollars. The primary security instrument for ship financing in international maritime practice is the ship mortgage, a security interest in the ship that gives the mortgagee (the lender) rights to the ship in the event of the borrower's default. Ship mortgages in international practice operate within the framework established by the International Convention for the Unification of Certain Rules Relating to Maritime Liens and Mortgages of 1993 (the 1993 MLM Convention), which Bangladesh has not ratified, and by the national maritime lien and mortgage laws of flag states.

The legal framework for ship mortgages in Bangladesh is established by the Merchant Shipping Ordinance and, prospectively, by the more detailed provisions of the 2020 Act. The enforceability of ship mortgages, including the rights of mortgagees in the event of the mortgagor's insolvency and the priority of mortgages relative to maritime liens, is a technically complex area that the current domestic legal framework does not address with the precision required for effective ship financing. This weakness constrains the development of a Bangladeshi

ship financing sector and may also affect the ability of Bangladeshi shipowners to obtain international financing on competitive terms.

The accession of Bangladesh to the 1993 MLM Convention, and the comprehensive reform of Bangladesh's maritime lien and mortgage law in conformity with the Convention's standards, would significantly improve the legal framework for ship financing and would signal Bangladesh's commitment to maintaining a maritime registry that meets internationally recognised commercial standards. This reform would be of direct benefit to Bangladeshi shipowners seeking to finance vessel acquisitions on the international capital markets.

8.3 The Bill of Lading, the Charter Party, and the Legal Infrastructure of Cargo Carriage

The bill of lading and the charter party are the two principal contracts of maritime cargo carriage, and their legal framework constitutes the heart of the commercial maritime law applicable to the vast bulk of Bangladesh's international trade. Understanding these instruments and the legal framework governing them is essential for understanding the legal risks and the legal protections available to Bangladeshi shippers, cargo receivers, banks financing cargo trades, and insurers.

The bill of lading is a document issued by the carrier (typically the shipowner or a liner shipping company) to the shipper, acknowledging receipt of cargo for carriage, evidencing the contract of carriage, and serving as a document of title to the cargo that can be transferred by endorsement and delivery to enable the sale of goods afloat and to secure trade finance. The legal framework governing bills of lading, including the allocation of risk for cargo damage, the carrier's defences and exemptions, and the limitation of the carrier's liability, is established in Bangladesh by the Carriage of Goods by Sea Act of 1925, which incorporates the Hague Rules.

The Hague Rules represent the legal standard of 1924, designed primarily for the protection of shipowners against excessive liability for cargo damage, and they reflect the commercial and political realities of a period when maritime commerce was dominated by British shipping companies and the British-imperial framework of commercial law. The subsequent Hague-Visby Rules of 1968 and the Hamburg Rules of 1978 represent progressive updates of the liability framework, reflecting the growing bargaining power of cargo interests and the changing commercial practices of international shipping, including the shift to containerisation. Bangladesh has not adopted either the Hague-Visby Rules or the Hamburg Rules, leaving its cargo liability law significantly behind the current international standard.

The charter party, the contract under which an entire ship or a portion of a ship is let for a voyage or a period of time, is the principal contract governing the carriage of bulk commodities including grain, coal, oil, and minerals, which constitute a significant proportion of Bangladesh's imports. Charter party law is primarily a matter of contractual freedom, with the terms of the charter determined by negotiation between the parties, but it is supplemented by customary terms and clauses incorporated by reference to standard forms such as the GENCON, BALTIME, and NYPE forms widely used in the shipping industry. The enforcement of charter party obligations in Bangladeshi courts, including claims for freight, deadfreight, demurrage, and damages for breach, is a regular feature of maritime commercial litigation in Bangladesh, and the

development of a specialist admiralty court with expertise in charter party law would significantly improve the quality and efficiency of this litigation.

CHAPTER 9: MARITIME SECURITY, COUNTER-PIRACY, AND THE PROTECTION OF COMMERCIAL SHIPPING

9.1 The IMO's Post-September 2001 Security Framework: ISPS Code and its Application to Bangladesh

The September 2001 attacks in the United States precipitated a fundamental review of the security of international shipping and maritime infrastructure. The International Ship and Port Facility Security Code (ISPS Code), adopted by the IMO in December 2002 as amendments to SOLAS Chapter XI-2, entered into force in July 2004 and established the first comprehensive international framework for maritime security. The ISPS Code requires ships and port facilities to implement security plans, designate security officers, and maintain systems for assessing and responding to security threats.

Bangladesh implemented the ISPS Code through amendments to the Merchant Shipping Ordinance and through the designation of the Department of Shipping as the responsible authority for maritime security. Chittagong Port and Mongla Port have been designated as ISPS-compliant port facilities, and Bangladesh-flagged vessels are required to comply with the Code's ship-side requirements. The Bangladesh Coast Guard plays a central role in the practical implementation of maritime security in Bangladesh's ports and maritime zones.

The implementation of the ISPS Code in Bangladesh has been the subject of periodic review through IMO audits and through the commercial shipping industry's security assessments. The quality of security plan implementation at Bangladesh's ports and the training and capability of port facility security officers are areas where improvement is ongoing. The challenge of maintaining effective security at a major port like Chittagong, which handles millions of containers annually and through which a significant proportion of Bangladesh's national income flows, is one of the most complex security governance challenges in the country.

The specific security risks relevant to Bangladesh's maritime sector include the risk of illicit trafficking of arms, drugs, and persons through Bangladesh's ports and maritime zones; the risk of terrorist attacks on port facilities or vessels; and the risk of cyber attacks on the information technology systems that manage port operations, vessel tracking, and maritime communications. The legal framework for addressing these risks, including the authority of the Coast Guard and Navy to board and search suspicious vessels in Bangladesh's maritime zones, the procedures for responding to security incidents at port facilities, and the reporting obligations of vessel operators and port facility operators, requires comprehensive review and possible legislative strengthening.

9.2 The Counter-Piracy Framework and the Bay of Bengal

Piracy in the Bay of Bengal, while less prominently featured in international reporting than piracy in the Gulf of Aden or the Strait of Malacca, is a genuine maritime security concern that affects commercial shipping and fishing operations in and around Bangladesh's maritime zones. The International Maritime Bureau's annual piracy reports consistently record incidents of robbery and violence against vessels in the Bay of Bengal, including incidents in Bangladesh's coastal waters and ports.

The legal framework for the prosecution of piracy and armed robbery at sea in Bangladesh is established primarily by the Penal Code and by the provisions of the Merchant Shipping Ordinance. UNCLOS Articles 100 to 107 establish the framework of international law governing piracy on the high seas, but incidents of robbery against vessels in Bangladesh's territorial sea and ports are governed by domestic criminal law rather than by the UNCLOS piracy provisions, which apply only to acts on the high seas or in places outside the jurisdiction of any state.

The Bangladesh Coast Guard Act of 2010, which established the Coast Guard as the primary maritime law enforcement agency responsible for combating piracy and armed robbery at sea, provides the institutional basis for counter-piracy operations in Bangladesh's maritime zones. The Coast Guard's operational capability, including its fleet of patrol vessels, its surveillance systems, and its coordination with the Bangladesh Navy, has improved since the Act's enactment, but it remains constrained by resource limitations relative to the vast area of sea for which it is responsible.

The legal dimensions of counter-piracy operations, including the use of force by Coast Guard vessels against suspected pirates, the procedures for the arrest and detention of persons suspected of piracy, and the prosecution of piracy offences in Bangladeshi courts, require clarification and strengthening. The UNCLOS framework for piracy prosecution, including the principle of universal jurisdiction that allows any state to prosecute pirates captured on the high seas, provides a broad legal basis for Bangladesh's counter-piracy enforcement, but the domestic criminal procedure framework needs to be adapted to address the specific evidentiary and procedural challenges of maritime piracy prosecutions.

9.3 Maritime Terrorism and the SUA Convention

The suppression of unlawful acts against the safety of maritime navigation (SUA) is governed by the 1988 SUA Convention and its 2005 Protocol, which were adopted in the aftermath of the hijacking of the cruise ship Achille Lauro in 1985. The 1988 SUA Convention establishes offences of unlawful seizure of ships, use of violence against persons on board ships, destruction of maritime navigational facilities, and other acts endangering the safety of ships, and requires states parties to establish jurisdiction over these offences and to extradite or prosecute perpetrators. The 2005 Protocol expanded the SUA framework to address the transport of terrorist weapons and personnel by sea.

Bangladesh is a party to the 1988 SUA Convention and has incorporated its provisions into domestic law. The implementation of the 2005 Protocol, which Bangladesh has not yet ratified, should be considered as part of the maritime security law reform agenda. The boarding provisions of the 2005 Protocol, which establish a framework for the boarding of ships suspected

of transporting terrorist weapons at sea, are particularly relevant given the strategic importance of Bangladesh's maritime zones for the security of regional shipping.

CHAPTER 10: THE BIMSTEC MARITIME TRANSPORT AGREEMENT: A NEW CHAPTER IN REGIONAL MARITIME COMMERCE GOVERNANCE

10.1 The Architecture and Significance of the BIMSTEC AMTC

The BIMSTEC Agreement on Maritime Transport Cooperation (AMTC), adopted at the sixth BIMSTEC Summit and ratified by India as the first state party in 2025, represents a landmark development in the regional maritime governance of the Bay of Bengal. The Agreement aims to facilitate cargo and passenger movement among BIMSTEC member states, enhance maritime safety and security, promote blue economy development, and advance digital integration and regional logistics. It reflects the growing recognition among the Bay of Bengal states that the maritime dimension of regional economic integration requires a specific institutional and legal framework beyond the general trade and investment agreements that have historically been the primary vehicles of regional cooperation.

The legal significance of the AMTC for Bangladesh cannot be overstated. As the host of the BIMSTEC secretariat and as the state most comprehensively dependent on the Bay of Bengal for its maritime economic interests, Bangladesh has a disproportionate stake in the effectiveness of the AMTC framework. The Agreement's provisions on the facilitation of cargo movement have direct implications for the competitiveness of Bangladesh's export industries, particularly the garment sector, whose supply chain logistics depend on efficient maritime connections with regional and global markets.

The AMTC framework for maritime safety and security cooperation is particularly significant. It establishes a regional framework for the sharing of maritime domain awareness information, for the coordination of search and rescue operations, and for the response to maritime pollution incidents, building on the bilateral maritime agreements that exist among some BIMSTEC members but providing a multilateral framework for the first time. For Bangladesh, active participation in this framework is both a legal obligation following ratification and a strategic opportunity to shape the development of regional maritime governance in ways that reflect Bangladesh's interests.

10.2 The Legal Interface Between the AMTC and Bangladesh's Domestic Maritime Law

The implementation of the AMTC in Bangladesh's domestic legal framework requires a careful assessment of the areas in which the Agreement creates new obligations that must be reflected in domestic legislation or regulations, and the areas in which existing domestic law is adequate to implement the Agreement's requirements. This assessment is a necessary preliminary to the legislative work of AMTC implementation, and it should be undertaken as part of the comprehensive maritime law reform process.

The AMTC's provisions on maritime facilitation, which aim to reduce the documentation and procedural requirements for vessels moving among BIMSTEC member states, have implications for Bangladesh's customs, immigration, and port entry procedures. The Agreement's requirements for the recognition of ship certificates and seafarer documents issued by other BIMSTEC states have implications for Bangladesh's recognition policy under the Department of Shipping and the Mercantile Marine Department. And the Agreement's provisions on maritime safety and environmental standards require that Bangladesh's domestic maritime law meets a minimum standard compatible with the Agreement's environmental and safety requirements.

The harmonisation of shipping documentation and customs procedures within the BIMSTEC framework is a particularly important practical objective. The development of a single electronic window for the submission of vessel arrival, cargo, and crew documentation at Bangladesh's ports, integrated with the documentation systems of other BIMSTEC member states, would significantly reduce the cost and time burden of port entry procedures and would support the broader objective of digital integration in regional maritime trade. The legal framework for the electronic submission and authentication of maritime documents, including electronic bills of lading and electronic certificates, requires specific legislative development.

10.3 Digital Maritime Trade and the Legal Framework for Electronic Documentation

The digitisation of maritime trade documentation is one of the most significant contemporary developments in maritime commerce law. The bill of lading, which has been the foundational document of maritime cargo trade for centuries, has historically been a paper document that must be physically transferred from the seller to the buyer to effect delivery of the goods. The shift to electronic bills of lading (eBLs), which replicate the commercial functions of the paper bill in electronic form, has been a major objective of the shipping industry and of international maritime law reform organisations for several decades, but progress has been slow because of the legal uncertainties surrounding the negotiability and transferability of electronic documents.

The Comite Maritime International's Rules for Electronic Bills of Lading of 1990 and the BOLERO system for the electronic transfer of bills of lading, developed in the late 1990s, were early attempts to establish a contractual framework for eBL systems. More recently, the R3 Contour platform, Bolero, essDOCS, and several other eBL platforms have achieved significant commercial adoption, particularly in the tanker and container shipping sectors. The legal recognition of eBLs under the English law, following the amendment of the Carriage of Goods by Sea Act 1992 and subsequent judicial development, has been an important enabler of this commercial adoption.

The legal framework for electronic bills of lading in Bangladesh is currently underdeveloped. The Carriage of Goods by Sea Act of 1925 was drafted for a world of paper documents and does not contain provisions addressing the legal status of electronic equivalents. The general framework of electronic commerce law in Bangladesh, established by the Information and Communication Technology Act of 2006 and the Digital Security Act, provides some basis for the legal recognition of electronic documents and signatures, but the specific requirements of bills of lading, including their negotiability and their function as documents of title, require specific legislative treatment that the general e-commerce framework does not provide.

The reform of Bangladesh's cargo carriage law, including the adoption of the Rotterdam Rules and the development of specific provisions on electronic bills of lading compatible with current international standards, should be a priority of the maritime law reform agenda. Bangladesh's exporters and importers, particularly those engaged in letter-of-credit-financed trade, are disadvantaged by the legal uncertainty surrounding electronic documentation, and the modernisation of the legal framework would support the efficiency and competitiveness of Bangladesh's trade finance sector.

CHAPTER 11: MARITIME DISASTERS, MARINE CASUALTIES, AND THE LEGAL FRAMEWORK FOR COMPENSATION AND PREVENTION

11.1 The Historical Pattern of Maritime Casualties in Bangladesh Waters

Bangladesh's maritime history includes a significant number of major maritime disasters, many of which have been under-reported in global maritime casualty statistics but have caused enormous loss of life and have profound implications for the legal framework of maritime safety. The country's unique geographic position, with its dense network of coastal waterways, its extensive fishing fleet, and its position on the track of some of the world's most powerful cyclones, creates a particular constellation of maritime risk that requires specific legal and governance responses.

The catastrophic cyclones that periodically devastate Bangladesh's coastal areas have often resulted in the loss of enormous numbers of fishing boats and coastal vessels, with severe loss of life among fishermen and coastal communities. The legal framework governing the safety of small coastal vessels, fishing boats, and inland waterway craft in Bangladesh is separate from the international merchant shipping framework but equally important, and the adequacy of this framework for the governance of the risks faced by the millions of people who travel and work on Bangladesh's coastal and inland waters is a major public safety concern.

The Sundarbans ferry disasters, which have claimed many lives in the inland and coastal waters of southwestern Bangladesh, and the fishing boat losses associated with cyclones, together constitute a pattern of maritime casualties that reflects both the inherent dangers of the coastal environment and the inadequacy of the current safety governance framework for small vessels. The legal requirements for the survey and certification of small coastal vessels, the safety equipment requirements for fishing boats, and the weather warning and emergency response procedures for coastal fishermen are areas where the legal framework requires comprehensive review and strengthening.

The investigation of major maritime casualties in Bangladesh, including passenger vessel sinkings and fishing boat disasters, has historically been conducted by local administrative bodies or by police rather than by specialist maritime casualty investigators. This approach, while administratively convenient, does not produce the technically rigorous analyses of casualty causes and contributing factors that are necessary for effective prevention. The development of the independent marine accident investigation capacity discussed in Chapter 5 above is urgently

needed, and it should cover not only international commercial shipping casualties but also coastal and inland waterway casualties, which are quantitatively the most significant source of maritime deaths in Bangladesh.

11.2 Oil Spill Response: Legal Framework and Institutional Capacity

An oil spill in Bangladesh's coastal waters or EEZ would constitute one of the most severe environmental disasters that Bangladesh could face. The Bay of Bengal carries significant volumes of oil tanker traffic, and the risk of a major spill from a tanker casualty is real. The consequences of a major oil spill in the coastal waters of Bangladesh, including the contamination of the Sundarbans, the destruction of fisheries, and the pollution of the beaches and coastal communities of Cox's Bazar, which is the world's longest natural sea beach, would be environmentally catastrophic and economically devastating.

Bangladesh's oil spill response framework is governed primarily by the provisions of the Merchant Shipping Ordinance dealing with pollution control, and by Bangladesh's membership in the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC). The OPRC Convention requires states parties to establish national systems for responding promptly and effectively to oil pollution incidents, including the designation of a national competent authority for marine pollution preparedness and response and the development of national contingency plans for oil spill response.

The adequacy of Bangladesh's national oil spill response capability has been a concern raised by maritime environmental experts and by international assessments. The Bangladesh Coast Guard, which is the principal operational body for maritime environmental response, has limited oil spill response equipment, limited trained personnel, and limited operational reach in the offshore areas of the EEZ where a major tanker casualty might occur. The pre-positioning of oil spill response equipment at strategic locations, the training of response personnel, and the development of coordinated national and regional oil spill response plans, are elements of the maritime environmental governance agenda that require specific legislative authorisation and financial investment.

The financial liability framework for oil spill compensation, discussed in Chapter 2 above, provides the legal basis for claims against the shipowners of vessels causing oil pollution. But the adequacy of the compensation available under the international liability framework for a major spill in Bangladeshi waters is uncertain: the CLC and Fund limits, while they have been progressively increased, may be insufficient to cover the full costs of a major spill in a coastal environment as ecologically sensitive and economically dependent on the sea as Bangladesh's.

CHAPTER 12: SHIP-BREAKING AT SITAKUNDA: A CASE STUDY IN LEGAL FAILURE AND THE IMPERATIVE OF COMPREHENSIVE REFORM

12.1 The Scale and Significance of Bangladesh's Ship-Breaking Industry

The ship-breaking industry at Sitakunda, situated along a 20-kilometre stretch of beach near Chittagong, is one of the defining realities of Bangladesh's relationship with the maritime world. Bangladesh is consistently ranked among the world's top ship-breaking nations, typically processing between 20 and 30 percent of global ship-breaking tonnage annually. Hundreds of ocean-going vessels, including supertankers, container ships, bulk carriers, and passenger vessels, are beached at Sitakunda each year and dismantled by a workforce estimated at between 20,000 and 30,000 workers using a combination of cutting equipment and manual labour.

The economic contribution of the ship-breaking industry to Bangladesh is significant. The steel recycled from dismantled vessels constitutes a substantial portion of the raw material input for Bangladesh's domestic steel industry, reducing the country's dependence on imported steel and providing a source of relatively inexpensive construction and manufacturing materials. The industry provides direct employment to tens of thousands of workers, most of them internal migrants from the poor rural areas of Bangladesh, as well as indirect employment in the downstream steel processing and manufacturing sectors.

However, the environmental and human rights costs of the Sitakunda ship-breaking industry are severe, extensively documented, and widely condemned by international environmental and labour organisations. The ships dismantled at Sitakunda contain hazardous materials including asbestos insulation, PCB-containing electrical equipment, heavy metals including lead and mercury, and residual oil and fuel in their tanks and systems. The release of these materials into the intertidal zone and coastal waters of Sitakunda has caused documented contamination of the marine environment with persistent organic pollutants, heavy metals, and hydrocarbons, causing measurable harm to the marine ecosystem and to the health of workers and nearby communities.

The occupational health and safety record of the industry is appalling. Deaths and serious injuries from explosions, falls, cutting equipment accidents, and exposure to toxic materials occur regularly at Sitakunda. NGOs and investigative journalists have documented the systematic failure of safety regulations, the absence of personal protective equipment, the inadequacy of medical facilities, and the impunity of employers who cause preventable deaths and injuries through negligence. The workers, many of them working without formal employment contracts, have limited access to the legal remedies theoretically available to them and face economic coercion that discourages them from asserting their rights.

12.2 The Legal Framework for Ship-Breaking: Gaps, Failures, and the Hong Kong Convention

The legal framework governing ship-breaking in Bangladesh is fragmented across the environmental law, labour law, customs law, and shipping law domains, with no single comprehensive instrument specifically designed to address the industry's distinctive regulatory challenges. The Environment Conservation Act of 1995 and its implementing rules provide the environmental regulatory framework, requiring environmental impact assessments for major industrial activities and imposing standards for the management of hazardous wastes. The Factories Act of 1965 and the Labour Act of 2006 provide the labour law framework, establishing occupational health and safety standards and workers' compensation requirements.

The Customs Act and the Port Authority regulations govern the import of vessels for scrapping as goods subject to customs duties and port authority controls.

The application of these instruments to the ship-breaking industry has been chronically inadequate. The courts and regulatory agencies have periodically taken enforcement action in response to specific incidents, but systemic enforcement of environmental and labour standards has been absent. The environmental impact assessment requirements have not been rigorously applied to individual ship-breaking operations. The occupational health and safety inspection of ship-breaking yards has been intermittent and insufficiently rigorous. And the legal framework for the liability of ship-breaking yard operators for environmental damage and worker injuries provides inadequate compensation for victims and insufficient deterrence against violations.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, which entered into force in June 2025 following the deposit of the required ratifications, establishes the international standard for ship recycling that Bangladesh's industry is expected to meet. The Convention requires ships destined for recycling to carry an Inventory of Hazardous Materials, documenting the location and quantity of all hazardous materials on board. It requires ship recycling facilities to be permitted by the national administration and to comply with specified standards for the safe management of hazardous materials. And it establishes a system of international verification of facility compliance, including the requirement for an international Certificate of Completion of Recycling for each ship recycled at a Convention-compliant facility.

Bangladesh is not yet a party to the Hong Kong Convention, and its ratification and implementation represents one of the most pressing priorities of the maritime law reform agenda. The ratification of the Convention would require Bangladesh to establish a domestic ship recycling facility authorisation and inspection regime that meets the Convention's standards, to implement the Inventory of Hazardous Materials requirement for Bangladesh-flagged vessels approaching the end of their commercial life, and to develop the institutional capacity for the monitoring and verification of compliance at Sitakunda and at any other ship recycling facilities. The investment required to bring the Sitakunda industry into compliance with Hong Kong Convention standards is substantial, but the alternative, which is the continued operation of the industry under conditions that violate international environmental and labour standards, is increasingly untenable in a world where the international community's scrutiny of the ship-breaking sector is growing.

The European Union's Ship Recycling Regulation, which came into full effect in 2015 and prohibits EU-flagged vessels from being recycled at facilities that are not included on the EU List of Approved Ship Recycling Facilities, creates a specific market pressure on Bangladesh's industry to meet European standards. Bangladeshi recycling facilities that are not approved by the EU are excluded from the substantial market of EU-flagged ships reaching the end of their commercial lives. The development of EU-approved facilities at Sitakunda, meeting the environmental and safety standards required for EU List inclusion, is a commercial as well as a regulatory objective that would benefit both the industry and the workers employed in it.

12.3 The Workers of Sitakunda: Labour Rights, Occupational Safety, and the Path to Justice

The workers of the Sitakunda ship-breaking yards are among the most economically vulnerable and legally unprotected workers in Bangladesh. They are predominantly young men, internal migrants from the poor rural areas of Bangladesh, working for wages that are low by the standards of urban employment in Bangladesh, without formal employment contracts in many cases, and without adequate social protection in the event of injury, disease, or death. The formal labour law framework, including the Labour Act and the Factories Act, applies to ship-breaking yards, but its enforcement has been chronically inadequate.

The legal obstacles to effective enforcement of labour and safety standards at Sitakunda are multiple. The enforcement capacity of the Department of Inspection for Factories and Establishments (DIFE), which is responsible for factory and workplace inspection in Bangladesh, is limited relative to the number of workplaces it is required to inspect, and ship-breaking yards are a particularly challenging environment for inspection because of their complex and rapidly changing physical configuration. The willingness and ability of workers to report violations and to access legal remedies is limited by their economic vulnerability, by the absence of meaningful trade union representation in many yards, and by the physical and institutional distance between the workers and the legal assistance and advocacy organisations that might assist them.

The development of a comprehensive legal framework for the ship-breaking industry, including specific occupational health and safety standards for ship-breaking operations, mandatory health and environmental impact assessments before each vessel is beached, workers' compensation requirements adequate to provide meaningful compensation for work-related injuries and deaths, and enforceable trade union rights for ship-breaking workers, is a legal reform objective that connects the maritime law agenda with the broader agenda of labour rights and social justice in Bangladesh. This framework should be developed through a consultative process that includes representatives of workers, NGOs, the ship-breaking industry, environmental regulators, and labour law experts.

CHAPTER 13: COMPARATIVE ANALYSIS, BEST PRACTICES, AND THE REFORM AGENDA FOR BANGLADESH'S MARITIME COMMERCE LAW

13.1 The Philippine Model: Seafarer Protection and Maritime Labour Governance

The Philippines is the world's largest supplier of seafarers, providing approximately 25 to 30 percent of the global seafarer workforce. The Philippine Overseas Employment Administration (POEA) and its maritime-specific regulatory framework, the Overseas Workers Welfare Administration (OWWA), and the Maritime Industry Authority (MARINA) together constitute a comprehensive institutional architecture for the governance of Filipino seafarers and the shipping industry. The Philippine model is frequently cited as an example of best practice in seafarer-supplying state governance, and its relevance to Bangladesh, which aspires to expand its own seafarer supply sector, is significant.

The key elements of the Philippine model that are relevant to Bangladesh include the mandatory standard employment contract for seafarers deployed abroad, which establishes minimum terms and conditions of employment, wages, and benefits that are legally enforceable regardless of the terms of any individual contract; the comprehensive system of pre-employment medical examination and certification; the mandatory allotment system requiring seafarers to remit a specified proportion of their wages directly to their families; the seafarer welfare fund providing social protection in cases of death, disability, and emergency; and the active consular assistance programme for Filipino seafarers in distress in foreign ports. These elements collectively provide a level of protection for Filipino seafarers that significantly exceeds what is available to most Bangladeshi seafarers.

Bangladesh's development of an analogous framework would require both legislative action, to establish the mandatory contract standards and the welfare fund, and institutional development, to build the administrative capacity of the Mercantile Marine Department and the Department of Shipping, to expand the consular capacity for seafarer assistance, and to develop the monitoring and enforcement systems that would give practical effect to the legislative framework. The investment in this framework would be justified by the economic importance of seafarer remittances to Bangladesh and by the social justice imperative of protecting one of Bangladesh's most exposed and vulnerable workforces.

13.2 The Singapore Model: Port Governance and Maritime Hub Development

Singapore is widely regarded as the world's leading maritime hub, combining the world's second-busiest container port by volume, the world's largest bunkering port, a sophisticated maritime finance and insurance sector, and a comprehensive legal and institutional framework for maritime commerce. Singapore's success as a maritime hub is not merely the result of its geographic location, though its position at the southern entrance to the Malacca Strait is undeniably advantageous; it reflects a deliberate, sustained, and strategically sophisticated policy of maritime hub development that has been pursued over several decades.

The key elements of Singapore's maritime governance that are relevant to Bangladesh's reform agenda include the Maritime Port Authority of Singapore (MPA), which serves as a single, integrated regulatory and promotional authority for all aspects of maritime commerce, from port operations to ship financing to maritime education; the Singapore Registry of Ships, which offers a commercially attractive, technologically sophisticated, and internationally respected open registry that is IMSAS-compliant and recognised for the quality of its ship survey and certification services; the Singapore International Arbitration Centre's maritime arbitration services, which provide efficient and internationally recognised dispute resolution for maritime commerce disputes; and the comprehensive maritime education and training system centred on the Singapore Maritime Academy, which provides the skilled maritime workforce that the hub's operations require.

Bangladesh's aspiration to develop as a maritime hub, reflected in the blue economy strategy and in the development of the Payra deep-water port, requires a comparable transformation of its maritime governance architecture. The comparison with Singapore is not intended to suggest that Bangladesh can or should replicate Singapore's specific institutional arrangements without

modification; the two countries' legal traditions, administrative cultures, and maritime industries are very different, and a reform agenda appropriate for Bangladesh must be designed with Bangladesh's specific circumstances in mind. But the principles underlying Singapore's success, including the integration of regulatory and promotional functions in a single capable authority, the commitment to international standards of regulatory quality, and the investment in maritime education and research, are applicable in the Bangladesh context and should inform the design of the reform agenda.

13.3 The Norwegian Model: Environmental Standards, Seafarer Rights, and Ship Safety

Norway, whose maritime tradition is among the richest in the world, provides a model of maritime governance that combines commercial excellence with high environmental and social standards. The Norwegian International Ship Register (NIS) and the Norwegian Ordinary Register (NOR) together provide a dual registry system that accommodates both commercially oriented registrations of international shipping and the national fleet, while maintaining high standards of safety and environmental compliance. Norway's National Maritime Authority (NMA) provides comprehensive oversight of ship safety, seafarer certification, and environmental compliance, and Norway's participation in the development of IMO conventions has been disproportionately influential in raising global maritime standards.

The Norwegian model's emphasis on the integration of safety, environmental, and labour standards into a coherent framework of maritime governance, rather than treating these as separate regulatory domains, is a principle that Bangladesh's maritime law reform should embrace. The development of an integrated maritime governance framework in Bangladesh, analogous to the Norwegian model of a National Maritime Authority with responsibility for all aspects of maritime regulation, would address the fragmentation and coordination failures of the current institutional architecture. The Norwegian approach to the investigation of maritime accidents, through an independent Accident Investigation Board, provides the model for the independent marine accident investigation capacity whose development Bangladesh needs.

13.4 The Comprehensive Reform Agenda: Priorities, Sequencing, and Institutional Design

Drawing on the analysis in the preceding chapters of this Part, and on the comparative lessons from the Philippines, Singapore, Norway, and other maritime states, it is possible to articulate a comprehensive reform agenda for Bangladesh's maritime commerce legal framework. This agenda has several dimensions that are closely interconnected: legislative reform, institutional reform, capacity building, and international engagement.

The legislative reform agenda includes, at minimum, the following priorities. The comprehensive enactment of the Bangladesh Merchant Shipping Act of 2020 as the principal instrument replacing the 1983 Ordinance, with further amendments to address the gaps identified in this commentary, including the integration of MLC standards, the strengthening of environmental provisions, and the development of more detailed provisions on ship mortgage and maritime lien priority. The development of a comprehensive ship recycling law implementing the Hong Kong Convention. The reform of the Carriage of Goods by Sea Act to incorporate Hague-Visby or Rotterdam Rules standards and to provide specific legal recognition of electronic bills of lading.

The adoption of the LLMC 1996 Protocol as the governing framework for limitation of liability. The accession to and implementation of the Bunker Convention and the HNS Convention. And the development of a specific law establishing the legal framework for a reformed, integrated port governance structure.

The institutional reform agenda centres on the development of a Bangladesh Maritime Authority (BMA) as the single, integrated regulatory body for maritime commerce, combining the functions currently distributed across the Department of Shipping, the Mercantile Marine Department, the Coast Guard's maritime safety and environmental functions, and the various port authorities' regulatory functions. The BMA would not replace the operational functions of the individual port authorities, which would continue as commercial and operational entities, but would provide the regulatory oversight, standard-setting, and coordination functions that require a single integrated authority. The BMA's legal framework, including its establishment, powers, accountability mechanisms, and financial structure, would be established by a new Bangladesh Maritime Authority Act.

The capacity-building agenda includes investment in the training and qualification of maritime surveyors, port state control officers, marine accident investigators, seafarer certification authorities, and maritime environmental officers. It includes the development of a national maritime academy of the highest international standards, providing training in ship navigation, engineering, maritime law, port management, and environmental management, and serving not only Bangladesh's domestic needs but the regional demand for maritime education. And it includes the development of an advanced maritime research and development capability, supporting the innovation in digital technology, autonomous systems, and environmental monitoring that the maritime sector increasingly requires.

The international engagement agenda includes the active pursuit of Bangladesh's ratification of the maritime conventions to which it is not yet a party, including the Hong Kong Convention, the Rotterdam Rules, the Bunker Convention, the HNS Convention, and the LLMC 1996 Protocol. It includes active and strategic participation in the work of the IMO, the ILO's joint maritime committee, and the regional maritime governance bodies including the Tokyo MOU and the BIMSTEC framework. And it includes the development of Bangladesh's bilateral maritime relationship with major flag states and major shipping nations, through the conclusion of bilateral maritime agreements that protect Bangladesh's interests in the international maritime economy.

CHAPTER 14: JURISPRUDENTIAL REFLECTIONS ON MARITIME COMMERCE LAW AND THE FUTURE OF THE SEA AS A LEGAL SPACE

14.1 The Ship as a Jurisprudential Problem: Property, Community, and the Limits of Territorial Law

The ship has always been a troubling object for legal theory, because it challenges the territorial premises of the dominant tradition of legal governance. Law, in the Western tradition, is paradigmatically territorial: it is made by a sovereign, applies within the sovereign's territory,

and is enforced by the sovereign's courts within that territory. The ship, by contrast, is an object that moves continuously across territorial boundaries, that may be owned by a national of one state, registered under the flag of another, crewed by nationals of several different states, carrying cargo owned by parties in yet other states, and operating in international waters that belong to no state. The simultaneous subjection of the ship to multiple legal regimes, none of which has exclusive authority over all aspects of its operations, is a permanent challenge for legal theory and a source of genuine practical difficulties for those who must operate ships, govern them, and resolve disputes arising from their commercial use.

The tension between the flag state principle and the principle of coastal state jurisdiction in the EEZ, discussed in Part Two of this commentary, is one dimension of the ship's jurisprudential complexity. The tension between the freedom of the high seas and the regulatory demands of flag states and international conventions is another. And the tension between the contractual autonomy of the parties to maritime commerce transactions and the mandatory protective standards of international maritime law is a third. These tensions are not fully resolvable within any single legal-theoretical framework; they require a pluralistic jurisprudence that can accommodate the multiple and sometimes conflicting normative demands of the maritime commercial world.

The late Ronald Dworkin's theory of law as integrity, which holds that law must be interpreted as a coherent and principled system in which individual legal decisions must be consistent with the best interpretation of the principles underlying the legal order as a whole, provides an interesting lens for the analysis of maritime commerce law. Dworkin's approach would require the interpretation of maritime commerce rules, including the rules of the bill of lading, the charter party, marine insurance, limitation of liability, and admiralty jurisdiction, as part of a coherent normative system that reflects the deeper principles of maritime law, including the allocation of maritime risk in a manner that promotes the efficiency of maritime commerce while protecting the interests of those who bear the costs of maritime activities, including seafarers, coastal communities, and the marine environment. Whether existing maritime commerce law achieves this coherence is, of course, the subject of continuing doctrinal debate.

14.2 The Political Economy of Maritime Commerce Law: Interests, Power, and the Making of International Standards

The international standards of maritime commerce law, including the IMO conventions, the international carriage and insurance conventions, and the MLC, are not the products of neutral technical expertise applied to the objective assessment of maritime risk. They are the products of political processes in which the interests of different stakeholders, including shipowners, seafarers, cargo interests, insurers, classification societies, port authorities, and coastal states, are negotiated and compromised in ways that reflect the relative power and influence of the parties. The result is an international maritime law framework that, in important respects, reflects the historical dominance of maritime commerce by a relatively small number of major maritime powers and major shipping companies.

This political economy analysis has specific implications for Bangladesh's engagement with the processes of international maritime standard-setting. Bangladesh, as a developing coastal state

with a growing but still modest role in international shipping, has limited influence in the IMO committees where international standards are set. It is a major seafarer-supplying state, but the interests of seafarers are significantly underrepresented in IMO standard-setting compared to the interests of shipowners and flag state administrations. And it is a major ship-breaking state, but the interests of ship-breaking workers and coastal communities are systematically underrepresented in the development of the international standards governing the ship recycling industry.

The recognition of this power imbalance is not a counsel of despair but a guide to effective strategy. Bangladesh's most effective approach to international maritime standard-setting is to build coalitions with other developing coastal states, with seafarer-supplying states, and with civil society organisations, to advocate for standards that reflect the interests of these constituencies. The use of the BIMSTEC framework for collective representation at the IMO, modelled on the coordinated advocacy of regional groups in other international forums, is one strategic approach that Bangladesh's maritime diplomacy should develop.

14.3 The Future of Maritime Commerce Law: Decarbonisation, Digitisation, and the Transformation of the Ship

The future of maritime commerce law will be shaped by two transformative forces that are already beginning to alter the legal landscape in fundamental ways. The first is the imperative of decarbonisation: the shipping industry, as a significant source of global greenhouse gas emissions, is under increasing pressure from international law, from commercial markets, and from the political commitments of major maritime states to achieve net-zero emissions close to 2050 in accordance with the IMO's Revised GHG Strategy. The second is the digital revolution: the development of digital technologies including the Internet of Things, artificial intelligence, big data, blockchain, and autonomous systems is transforming the operational and commercial character of maritime shipping in ways that challenge established legal frameworks.

The decarbonisation of shipping will require fundamental changes to the legal framework of ship construction standards, fuel standards, operational requirements, and carbon pricing mechanisms. The IMO's Carbon Intensity Indicator (CII) regulations, which entered into force in January 2023, and the Energy Efficiency Existing Ship Index (EEXI) requirements, which also entered into force in 2023, represent the initial steps in the regulatory framework for shipping decarbonisation. The development of a global bunker fuel carbon tax or levy, which has been under discussion in the IMO for several years, would represent a more ambitious regulatory intervention with significant implications for shipping costs and competitive dynamics in global trade.

For Bangladesh, the decarbonisation of shipping has specific implications. As a country that is a significant maritime trading nation and whose garment exports are carried by container shipping that is subject to decarbonisation requirements, Bangladesh has an interest in ensuring that the cost implications of shipping decarbonisation do not disproportionately disadvantage developing country exporters relative to those from closer to consuming markets. As a country that is profoundly vulnerable to climate change, Bangladesh has a strong interest in the ambitious decarbonisation of global shipping. And as a developing maritime state, Bangladesh has an

interest in ensuring that the transition to green shipping technologies is accompanied by adequate technology transfer and financial support for developing countries, consistent with the obligations established by the 2024 ITLOS Advisory Opinion.

The digitisation of shipping raises a range of new legal questions that the current framework of maritime law is not adequately equipped to address. The legal status of maritime autonomous surface ships (MASS), which operate with varying degrees of autonomy from shore-based operators, raises questions about the applicability of existing SOLAS safety standards, the role of the master in exercising command of the ship, the liability for casualties caused by autonomous decision-making systems, and the flag state jurisdiction applicable to a vessel that may have no crew on board in the traditional sense. The IMO has been conducting a regulatory scoping exercise on MASS since 2017, and it is developing a framework for the regulation of autonomous vessels, but the process is complex and the legal framework for MASS remains incomplete.

The use of blockchain technology for electronic bills of lading and smart contracts for maritime commerce transactions raises questions about the legal recognition and enforceability of blockchain-based documents and contracts, the liability of platform operators for system failures or errors, and the interface between blockchain-based commercial arrangements and the existing legal framework of cargo carriage law. Bangladesh's legal framework for electronic commerce and digital finance, while developing, does not yet specifically address these maritime applications, and the development of an enabling legal framework for digital maritime commerce is a reform priority for the coming years.

The development of digital port management systems, including cargo tracking platforms, single windows for customs and port entry documentation, and port community systems, is advancing rapidly in major ports globally, and Bangladesh's ports need to participate in this digital transformation if they are to remain competitive. The legal framework for digital port management, including data governance, cybersecurity, privacy, and the legal status of digitally-issued port and customs documents, requires specific attention in the reform agenda.

14.4 Artificial Intelligence and the Future of Maritime Dispute Resolution

The application of artificial intelligence to the resolution of maritime commerce disputes is an emerging frontier in legal technology that deserves attention in any forward-looking analysis of maritime commerce law. AI systems capable of analysing large bodies of maritime case law, contract terms, and factual evidence, and generating legal analysis and recommendations, are already being developed and deployed in leading maritime legal practices. The potential for AI to assist in the rapid and cost-effective resolution of the high volume of routine maritime disputes, including cargo damage claims, demurrage disputes, and freight claims, is significant.

However, the application of AI to maritime dispute resolution raises important jurisprudential questions about the nature of legal reasoning, the limits of algorithmic decision-making, and the human rights dimensions of AI adjudication. The complex normative judgements involved in maritime law, including the assessment of the reasonableness of a master's decisions in an emergency, the interpretation of ambiguous contractual terms in the context of commercial

usage, and the equitable allocation of maritime risk in circumstances not specifically addressed by any rule, are not amenable to algorithmic resolution without the exercise of distinctly human legal wisdom. The development of guidelines for the use of AI in maritime dispute resolution, distinguishing the tasks that AI can appropriately assist with from those that require human legal judgment, is an important element of the legal technology policy agenda.

For Bangladesh, the development of AI-assisted maritime legal services would need to be approached carefully, given the limited availability of specialised maritime legal expertise and the risk that AI systems trained primarily on common law or European maritime jurisprudence might not adequately reflect the specific legal context of Bangladesh's maritime law. The development of AI tools specifically trained on Bangladeshi maritime case law, on UNCLOS jurisprudence relevant to Bangladesh, and on the specific commercial and regulatory context of the Bay of Bengal maritime economy, would be a more appropriate development path than the simple adoption of AI tools designed for the major maritime law jurisdictions of London, Singapore, or New York.

CONCLUSION TO PART FIFTEEN

This Part has undertaken a comprehensive examination of the legal architecture of maritime shipping, port governance, admiralty jurisdiction, and maritime commerce as it applies to Bangladesh. It has traced the historical and philosophical roots of maritime commerce law from the ancient lex maritima through the development of the modern international framework of IMO conventions and international commercial maritime law. It has provided a detailed critical analysis of Bangladesh's domestic legal framework, including the Bangladesh Merchant Shipping Ordinance of 1983, the Bangladesh Merchant Shipping Act of 2020, the port governance legislation of the Chittagong, Mongla, and Payra Port Authorities, and the admiralty jurisdiction framework of Bangladeshi courts. It has engaged with the deepest jurisprudential questions about the nature of the ship as a legal entity, the social contract of the flag state, the tension between contractual freedom and mandatory regulation, and the political economy of international maritime standard-setting.

Several central conclusions emerge from this analysis. First, Bangladesh's maritime commerce legal framework is characterised by a fundamental gap between the demands of the twenty-first century international maritime economy and the legislative instruments, institutional capacities, and governance practices that currently govern Bangladesh's engagement with that economy. This gap is not merely a matter of technical legal detail; it reflects a structural failure to invest in the maritime governance architecture that a nation with Bangladesh's maritime ambitions requires.

Second, the reform of this framework is urgent but must be comprehensive. Piecemeal amendments to individual statutes, without an overarching strategic vision of the maritime legal architecture that Bangladesh needs, will not address the structural deficiencies identified in this commentary. A comprehensive maritime law reform, including new or substantially revised legislation on merchant shipping, port governance, ship recycling, cargo carriage, maritime lien

and mortgage, limitation of liability, seafarer protection, and maritime environmental liability, accompanied by the institutional reform of maritime governance through the creation of a Bangladesh Maritime Authority, is the minimum necessary response to the current situation.

Third, the reform agenda must be informed by a deep understanding of Bangladesh's specific interests, circumstances, and position in the international maritime community. Bangladesh is not a major maritime power, but it is a major seafarer-supplying state, a major ship-breaking state, a major maritime trading nation, and a coastal state with a large and ecologically important maritime zone. The legal framework it develops must serve all of these dimensions of its maritime identity, and it must be designed with sensitivity to the political, social, and economic context in which it will be implemented.

Fourth, the legal dimensions of maritime commerce reform cannot be separated from the human dimensions. The seafarers who serve on Bangladesh-flagged vessels, the workers who dismantle ships at Sitakunda, the fishing communities whose livelihoods depend on the health of the Bay of Bengal, and the coastal communities whose lives are shaped by the maritime economy, all have a stake in the quality of maritime governance. A maritime law that serves only the interests of commercial operators, state agencies, and international investors, without adequate attention to the rights and welfare of the human beings whose lives the sea governs, would be an impoverished and ultimately unsustainable framework.

Fifth and finally, the reform of Bangladesh's maritime commerce legal framework must be understood as part of the broader project of Bangladesh's engagement with the international legal order. Bangladesh has demonstrated, through its successful maritime boundary arbitrations and through its active role in international climate diplomacy, that it can be a sophisticated and effective participant in international legal processes. The development of a comprehensive, internationally aligned, and institutionally capable maritime commerce legal framework would further strengthen Bangladesh's position as a credible and constructive maritime state, able to defend its interests, meet its obligations, and contribute to the governance of a maritime domain on which its national destiny depends.

The sea has always been central to what Bangladesh is and to what Bangladesh can become. The law that governs the sea must be equal to that centrality.

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End of Part Fifteen

Part Sixteen will examine the legal architecture of marine scientific research, marine technology transfer, and the governance of emerging ocean technologies in Bangladesh's maritime zones, addressing the rights and obligations of coastal states under UNCLOS Part XIII, the BBNJ Agreement's technology transfer provisions, Bangladesh's marine scientific research capacity and governance framework, the specific challenges of deep-sea research in Bangladesh's EEZ and continental shelf, the governance of submarine cables and pipelines, and the intersection of marine scientific research with the emerging legal frameworks for ocean data governance, artificial intelligence, and the digital commons.

PART SIXTEEN

THE HIGH SEAS, BIODIVERSITY BEYOND NATIONAL JURISDICTION, AND BANGLADESH'S EMERGING OBLIGATIONS IN THE GOVERNANCE OF GLOBAL COMMONS: THE BBNJ AGREEMENT, DEEP SEABED GOVERNANCE, HIGH SEAS FISHERIES, AND THE IMPERATIVE OF COMPREHENSIVE LEGAL REFORM

PREFACE TO PART SIXTEEN

The oceans of the world do not end at the two-hundred-nautical-mile boundary of the Exclusive Economic Zone. They extend far beyond that line, across vast tracts of open water that belong to no state, that are governed by no single authority, and that contain within their depths the most poorly understood, the most ecologically significant, and the most legally contested resources on the planet. These areas, encompassing nearly two-thirds of the total ocean surface and approximately ninety-five per cent of the ocean by volume, are designated in international law as areas beyond national jurisdiction. They comprise the high seas in their entirety and the seabed beneath them, which the 1982 United Nations Convention on the Law of the Sea denominates the Area and declares to be the common heritage of mankind.

For most of the history of Bangladeshi maritime law scholarship and policy, these areas beyond national jurisdiction have been treated as matters of peripheral relevance at best. The understandable preoccupation of the Bangladeshi state with the assertion and defence of its maritime boundaries, with the management of its Exclusive Economic Zone, and with the exploitation of the fisheries and hydrocarbons within that zone has meant that the governance of the global commons beyond national jurisdiction has not received sustained attention in domestic

legal and policy discourse. This neglect is now untenable, for reasons both external and internal to the development of international maritime law.

The external reason is dramatic and historically unprecedented. On 17 January 2026, the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction entered into force, having been ratified by the required sixty states in September 2025. Known widely as the BBNJ Agreement or the High Seas Treaty, this instrument represents the most significant development in the international law of the sea since the adoption of UNCLOS itself in 1982. It creates for the first time a comprehensive, legally binding framework governing the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, including provisions on marine genetic resources and benefit sharing, area-based management tools, environmental impact assessments, and capacity building and technology transfer. Its entry into force has fundamentally altered the legal landscape within which Bangladesh must navigate its maritime interests and obligations.

The internal reason is the growing recognition among Bangladeshi legal scholars, policymakers, and civil society that the health of Bangladesh's coastal and EEZ marine ecosystems is inextricably linked to the health of the broader ocean system, including the high seas. The productivity of Bangladesh's fisheries, which supports the livelihoods of millions of coastal inhabitants and the food security of the broader population, depends on ecological processes that operate across vast ocean spaces far beyond the limits of national jurisdiction. The climate regulatory functions of the deep ocean, including carbon sequestration by deep-sea organisms, the modulation of sea-surface temperatures, and the circulation patterns that influence rainfall and cyclone frequency in the Bay of Bengal, are functions of the high seas and the deep seabed that no national jurisdiction can govern alone. And the emerging possibility of extracting mineral resources from the deep seabed beyond national jurisdiction, through technologies of deep-sea mining, raises legal and economic questions in which Bangladesh, as a developing coastal state and a party to UNCLOS, has a direct and legitimate interest.

Part Sixteen therefore undertakes a systematic and comprehensive examination of the law governing areas beyond national jurisdiction, with particular attention to the jurisprudential architecture of the BBNJ Agreement, the regime of the Area under UNCLOS and its administration by the International Seabed Authority, the governance of high seas fisheries, and the implications of all of these for Bangladesh's legal obligations, strategic interests, and reform agenda. The Part is organised in ten chapters, each of which addresses a distinct dimension of the subject with the depth and rigour that the complexity and importance of the issues demand. It engages throughout with the philosophical, jurisprudential, historical, and political dimensions of the subject, drawing on the broadest theoretical framework available to international maritime law scholarship, and it connects these theoretical reflections to the concrete practical challenges that Bangladesh faces in the third decade of the twenty-first century.

CHAPTER ONE: THE HIGH SEAS IN HISTORICAL, PHILOSOPHICAL, AND JURISPRUDENTIAL PERSPECTIVE

1.1 The Concept of the High Seas: Origins and Evolution

The concept of the high seas as a legal category is inseparable from the philosophical debate between freedom and sovereignty that, as traced in Part One of this treatise, has structured the development of international maritime law from the seventeenth century to the present. The high seas, in their modern legal definition under Article 86 of UNCLOS, are all parts of the sea that are not included in an exclusive economic zone, in the territorial sea or in the internal waters of a state, or in the archipelagic waters of an archipelagic state. This residual definition, identifying the high seas by reference to what they are not rather than by any positive characteristics, reflects the historical emergence of the concept as the great undifferentiated ocean space that remained beyond the claims of any coastal state after those claims had been satisfied.

In the Grotian tradition, the philosophical foundation of the high seas concept was the natural law principle of res communis, the thing held in common by all humankind. Grotius argued in Mare Liberum that the sea was by its nature incapable of occupation or appropriation, that it was inexhaustible and could not be depleted by any state's use, and that therefore no state could legitimately claim exclusive dominion over any part of the open sea. This was simultaneously a moral argument about the natural ordering of the world and a practical argument about the impossibility of maintaining sovereign control over such a vast, fluid, and boundary-defying medium as the open ocean. The freedom of the high seas, on this analysis, was not merely a legal rule but a reflection of a deeper natural and moral order.

The positivist tradition that succeeded naturalist international law retained the principle of freedom of the high seas but grounded it differently, not in the nature of things but in the consent of states and the practical requirements of international commerce and communication. The principle was codified in the Geneva Convention on the High Seas of 1958, Article 2 of which declared that the high seas being open to all nations, no state may validly purport to subject any part of them to its sovereignty. The codified freedoms of the high seas included freedom of navigation, freedom of fishing, freedom to lay submarine cables and pipelines, and freedom to fly over the high seas, all to be exercised with reasonable regard to the interests of other states in their exercise of the same freedoms.

UNCLOS Article 87 expanded the enumerated freedoms to include freedom to construct artificial islands and other installations permitted under international law and freedom of scientific research, while maintaining the essential character of the high seas as a space of freedom from territorial sovereign control. The UNCLOS framework, however, also introduced important qualifications on the absolute freedom of the high seas, most significantly through the recognition that freedom must be exercised with due regard for the interests of other states and through the comprehensive environmental protection obligations of Part XII, which imposed affirmative obligations on all states to protect and preserve the marine environment of the high seas as well as of areas under national jurisdiction.

The philosophical tension between the freedom principle and the governance requirements of the high seas became increasingly acute in the second half of the twentieth century, as the ecological and economic significance of the high seas became more fully understood and as the limitations of unregulated freedom became more apparent. The tragedy of the commons, the concept

articulated by Garrett Hardin in his influential 1968 essay, proved applicable to the high seas in a manner that Grotius had not anticipated: if every state was free to fish the high seas without limit, the rational self-interest of each would inevitably drive all to over-fish, depleting the stocks to the point of collapse. The inexhaustibility of the sea, on which Grotius had premised his argument for the freedom of the oceans, was demonstrably false in respect of living marine resources, which were finite, depletable, and in need of governance if they were to be sustained for future generations.

The response to this failure of the freedom principle in the fisheries context was the creation of the Exclusive Economic Zone, which addressed the problem of high seas fisheries by bringing the most productive ocean areas within national jurisdiction and placing the burden of conservation on the coastal state. But the EEZ solution was only partial: it left extensive and ecologically significant ocean areas beyond national jurisdiction, including the highly productive high seas areas at the boundaries of EEZs, the deep ocean gyres that support vast quantities of marine life, and the deep seabed and its unique biological communities. The governance of these residual areas beyond national jurisdiction remained, for decades after the adoption of UNCLOS, fundamentally inadequate to the ecological and economic challenges they presented. The BBNJ Agreement is the most ambitious attempt yet made to fill this governance gap.

1.2 The Philosophical Architecture of Freedom and Common Heritage

The UNCLOS framework deploys two distinct philosophical principles to govern areas beyond national jurisdiction. For the high seas, the water column and its living and non-living resources, the governing principle is freedom, qualified by the obligation of due regard and the requirements of environmental protection. For the Area, the deep seabed and its mineral resources, the governing principle is the common heritage of mankind. These two principles, freedom and common heritage, represent fundamentally different philosophical orientations toward the governance of global commons, and their interaction within the UNCLOS framework raises profound jurisprudential questions that are directly relevant to the BBNJ Agreement and to Bangladesh's engagement with the governance of areas beyond national jurisdiction.

The freedom principle, as applied to the high seas, reflects a liberal political philosophy in which the default condition is freedom and in which limitations on freedom require specific justification. On this view, states are presumptively entitled to use the high seas for any lawful purpose, and the burden of establishing a limitation on this freedom lies with those who would impose the limitation. The freedom principle serves the interests of the most technologically capable states, which have the greatest capacity to exploit high seas resources and which therefore derive the greatest benefit from a legal framework that imposes minimum restrictions on their freedom to do so. It is not coincidental that the freedom of the high seas was historically championed most enthusiastically by the dominant maritime powers, first Portugal and Spain, then the Netherlands and Britain, and most recently the United States, each of which sought to preserve its freedom of action in the global ocean against the constraints that more restrictive governance would impose.

The common heritage of mankind principle, as applied to the Area, reflects a fundamentally different philosophical orientation. It begins from the premise that the deep seabed and its

mineral resources belong not to any state or group of states but to all humankind, including future generations, and that their exploitation must be governed in accordance with the principle of equitable benefit sharing rather than simply the power of the technologically capable. This principle was proposed by Arvid Pardo in 1967 as a response to the prospect that the technologically advanced states would exploit the mineral riches of the deep seabed for their own exclusive benefit, using the freedom principle to justify an outcome that would concentrate the benefits of the last great resource frontier in the hands of the wealthy while the poor received nothing. The common heritage principle is philosophically radical in several respects: it challenges the state-centric framework of international law by positing mankind as the true owner of certain global resources; it introduces intergenerational equity as a principle of international law by requiring that the interests of future generations be taken into account in the governance of the Area; and it creates a redistributive obligation by requiring that the benefits of deep seabed mining be shared with all states, especially developing ones, rather than accruing only to those with the capacity to conduct mining operations.

The interaction between the freedom principle and the common heritage principle in the context of the BBNJ Agreement is philosophically complex and practically significant. The marine genetic resources of the high seas, which the BBNJ Agreement addresses in Part II, were for decades governed by the freedom principle: any state or private actor with the technological capacity to collect these resources was free to do so, and the benefits of their exploitation through biotechnology and pharmaceuticals accrued to the collector without any obligation of sharing. The BBNJ Agreement introduces a benefit-sharing regime modelled loosely on the common heritage principle, requiring that the monetary and non-monetary benefits of the utilisation of marine genetic resources be shared with all states, with special attention to the needs of developing states. This represents a significant philosophical reorientation of the governance of high seas genetic resources, from freedom to common heritage, and its implications for the balance of interests between technologically advanced states and developing states are substantial.

For Bangladesh, a developing state without significant capacity to collect or commercially exploit marine genetic resources from the high seas, the philosophical reorientation represented by the BBNJ Agreement's benefit-sharing provisions is of direct practical relevance. Under the freedom regime, Bangladesh derived no benefit whatsoever from the exploitation of these resources by technologically advanced states. Under the BBNJ Agreement's benefit-sharing regime, Bangladesh is entitled to a share of the monetary benefits generated by the commercialisation of marine genetic resources, to access to non-monetary benefits including scientific information and technology, and to capacity-building assistance that will enable it to develop its own marine bioscience capabilities. Whether these entitlements will in practice generate significant benefits for Bangladesh depends on the effective implementation of the Agreement, on the commercial value of the marine genetic resources that are discovered and exploited, and on Bangladesh's own engagement with the governance institutions of the Agreement.

1.3 The Jurisprudence of the High Seas: From Mare Liberum to the BBNJ Agreement

The jurisprudential development of the law governing areas beyond national jurisdiction can be traced through a series of landmark judicial and arbitral decisions that have shaped the understanding of the rights, obligations, and legal relations of states in the high seas context. The trajectory of this jurisprudence reflects, in the legal dimension, the broader philosophical shift from freedom to governance that has characterised the development of the law of the sea in the second half of the twentieth century and the opening decades of the twenty-first.

The Fur Seal Arbitration of 1893, in which a tribunal rejected the United States' claim to exercise jurisdiction over fur seals on the high seas beyond its territorial waters, established the principle that no state could assert exclusive jurisdiction over the high seas for conservation purposes without treaty authority. This decision was rendered in the era of virtually unlimited freedom of the high seas, and it reflected the positivist jurisprudential commitment to territorial sovereignty as the exclusive basis of state jurisdiction. But it also contained within it the seeds of a different development: the tribunal's recognition that the depletion of fur seals was a genuine problem that required an international response, even if unilateral assertion of jurisdiction was not the appropriate mechanism, pointed toward the need for cooperative governance of shared resources that would eventually produce the fisheries conservation framework of UNCLOS and, in the biological diversity context, the CBD and BBNJ Agreement.

The Lotus Case, decided by the Permanent Court of International Justice in 1927, established a general principle of international law that has had enduring influence in the law of the sea: the principle that in the absence of specific prohibiting rules, states are free to exercise jurisdiction in the high seas. The Lotus principle, as it has come to be known, reflects a positivist, voluntarist conception of international law in which freedom is the default condition and obligation requires specific consent. Applied to the high seas, the Lotus principle reinforced the freedom of the high seas doctrine by suggesting that states need not point to a specific authorising rule to justify high seas activities; they need only demonstrate the absence of a prohibiting rule. This principle has been the subject of extensive scholarly debate and some qualification in subsequent jurisprudence, but its basic orientation toward freedom as the default condition of the high seas has remained influential.

The North Sea Continental Shelf cases of 1969, though primarily concerned with continental shelf delimitation rather than high seas governance, established several principles of enduring relevance to the jurisprudence of areas beyond national jurisdiction. The Court's analysis of the continental shelf as an extension of the coastal state's land territory under the sea, and its confirmation that the coastal state's rights in the shelf existed ipso facto and ab initio, without the need for any proclamation or act of appropriation, established the foundation for the comprehensive continental shelf regime of UNCLOS and defined the boundary between areas under national jurisdiction and the Area beyond.

The South China Sea Arbitration, decided by a tribunal constituted under Annex VII of UNCLOS in 2016, addressed a range of questions concerning the law of the high seas that are relevant to the governance of areas beyond national jurisdiction. The tribunal's analysis of the right to fish in the traditional fishing grounds of the high seas, and its rejection of historic rights claims in the EEZ and on the continental shelf of other states, reaffirmed the primacy of the UNCLOS framework for the allocation of maritime jurisdiction and the governance of maritime

resources. The tribunal's discussion of the status of features, whether as islands, rocks, or low-tide elevations, and the implications of this classification for the generation of maritime zones, contributed to the jurisprudence of maritime entitlements that is central to understanding which areas fall within national jurisdiction and which fall within areas beyond.

The 2024 ITLOS Advisory Opinion on climate change obligations, discussed in earlier parts of this treatise, has particular relevance to the jurisprudence of the high seas because it confirmed that states have obligations under UNCLOS to prevent, reduce, and control marine pollution in all maritime areas, including the high seas. The confirmation that anthropogenic greenhouse gas emissions constitute pollution of the marine environment under Article 1(1)(4) of UNCLOS means that states' climate obligations extend to their impacts on the high seas, not merely on areas within national jurisdiction. This is a significant jurisprudential development for the governance of the high seas, since it introduces a substantive environmental obligation on all states that goes beyond the mere prohibition of specific polluting acts to encompass the systemic obligation to reduce emissions that are degrading the global ocean environment.

The ICJ Advisory Opinion on climate change obligations, delivered in 2025, further reinforced these developments by confirming the precautionary principle as a governing standard for state conduct in relation to environmental risks, requiring states to take proactive measures to prevent significant harm even in conditions of scientific uncertainty. Applied to the high seas, this principle imposes on all states an obligation of anticipatory governance in relation to activities that may pose risks to the marine environment beyond national jurisdiction, including deep-sea mining, high seas fishing, shipping pollution, and the cumulative impacts of climate change.

1.4 The Tragedy of the Commons and the Theory of Ocean Governance

Garrett Hardin's essay on the tragedy of the commons, published in Science in 1968, provided a framework for understanding the governance challenges of shared resources that has had enormous influence in the law and economics of natural resources, including marine resources. Hardin's argument was that where a resource is available to all without restriction, the rational self-interest of each individual user will lead to its overexploitation and eventual destruction: each user has an incentive to maximise his or her own use, capturing the full benefit of an additional unit of consumption while sharing the cost of depletion across all users. The tragedy is that this individually rational behaviour produces a collectively irrational outcome, the destruction of the resource that all users depended upon.

Applied to the high seas, the tragedy of the commons argument suggests that unregulated freedom of the high seas is inherently self-defeating: if all states are free to fish without limit, all fish populations will eventually be depleted; if all states are free to dump waste without limit, the marine environment will be destroyed; if all states are free to exploit mineral resources without limit, the deep seabed will be stripped of its resources and the unique deep-sea ecosystems that depend on those resources will be destroyed. The freedom principle, on this analysis, contains within itself the seeds of its own negation.

The standard solution to the tragedy of the commons in the economic literature is either privatisation, assigning exclusive property rights to individual users who then have an incentive

to manage the resource sustainably, or regulation, the imposition of rules that prevent excessive exploitation of the common resource. The EEZ concept can be understood as a form of partial privatisation of the ocean commons: by assigning exclusive resource rights to coastal states within two hundred miles of their coasts, it gave those states an incentive to manage their fisheries and other marine resources sustainably. The Area regime under UNCLOS represents a form of international regulation of the deep seabed commons, with the International Seabed Authority serving as the regulatory authority. The BBNJ Agreement represents a new form of regulation of the high seas commons, creating institutional arrangements for the governance of biological diversity in areas that UNCLOS had left largely ungoverned.

Elinor Ostrom's Nobel Prize-winning work on the governance of the commons, published as Governing the Commons in 1990, challenged the binary choice between privatisation and centralised regulation that had dominated the commons discourse since Hardin. Ostrom demonstrated, through empirical studies of commons governance arrangements in diverse cultural and ecological contexts, that communities of users could and did develop effective governance arrangements for shared resources without recourse to either privatisation or external regulation. These arrangements, which Ostrom characterised as polycentric governance systems, were characterised by clearly defined boundaries, rules adapted to local conditions, participatory decision-making, monitoring and enforcement mechanisms, graduated sanctions, and accessible mechanisms for dispute resolution.

Ostrom's framework has been applied, with varying degrees of success, to the governance of marine resources. The regional fisheries management organisations, which have developed governance arrangements for specific high seas fish populations through cooperative arrangements among fishing states, can be understood as Ostromian polycentric governance systems, with their defined membership, negotiated rules, scientific monitoring, and dispute settlement mechanisms. The BBNJ Agreement can similarly be understood as an attempt to create an Ostromian governance system for the biological diversity of the high seas, establishing the institutional arrangements, participatory processes, monitoring mechanisms, and benefit-sharing rules through which states can cooperate in the sustainable governance of a shared resource without recourse to either privatisation or highly centralised international authority.

The application of Ostrom's framework to the high seas governance context is, however, more complex than in the terrestrial and coastal commons settings that Ostrom primarily studied. The high seas commons lack the locally bounded character of Ostrom's successful commons governance cases; they are global in extent, affecting all states whether or not they are active users of high seas resources. The users of the high seas are not a clearly defined community with shared interests and social relationships; they are a heterogeneous collection of states, international corporations, research institutions, and non-state actors with widely varying interests, capacities, and relationships with the shared resource. And the governance challenge is not merely about preventing overexploitation of specific resources but about managing the cumulative impacts of multiple, diverse human activities on a vast and poorly understood ecological system.

These complexities do not invalidate the application of Ostrom's insights to the high seas governance context, but they require adaptation and refinement. The BBNJ Agreement's

institutional architecture, with its Conference of the Parties, its scientific and technical body, its access and benefit-sharing committee, its compliance committee, and its clearing-house mechanism, can be read as an attempt to create precisely the kind of polycentric governance system that Ostrom's analysis suggests is appropriate for complex commons governance challenges: not a single, highly centralised authority but a network of institutions with distinct but complementary functions, operating through participatory processes and science-based decision-making.

1.5 Critical Perspectives: The Politics of Ocean Governance and the Question of Justice

The philosophical framework of freedom and common heritage, and the institutional framework of ocean governance that has been built upon it, are not politically neutral. They reflect specific distributions of power, specific configurations of interest, and specific conceptions of justice and equity that deserve critical examination. The Third World Approaches to International Law perspective, discussed in earlier parts of this treatise, is particularly relevant here: the governance of the global ocean commons has historically been structured by and for the technologically advanced states, and the distribution of benefits from ocean resources has been profoundly unequal.

The freedom of the high seas, as a principle of international law, has benefited primarily those states that had the capacity to exploit high seas resources: the technologically advanced maritime powers whose deep-sea fishing fleets, whose biotechnology companies, whose mining corporations, and whose naval forces could operate on the high seas at minimal cost. For states like Bangladesh, with limited maritime enforcement capacity, no deep-sea research fleet, and no biotechnology industry capable of commercialising marine genetic resources, the freedom of the high seas has meant in practice the freedom of others to exploit resources from which Bangladesh derives no benefit. The freedom principle, in the high seas context, is not freedom equally available to all; it is freedom whose benefits are distributed in proportion to technological and financial capacity.

The common heritage of mankind principle was proposed as a corrective to this inequality, and it reflects a conception of distributive justice that has strong resonance with the philosophical tradition of John Rawls. Rawls argued in A Theory of Justice that principles of justice should be those that rational individuals would choose from behind a veil of ignorance, not knowing their own position in society or their own natural endowments. From behind such a veil, not knowing whether one's state would be technologically advanced or developing, a capable maritime power or a poor coastal state, rational individuals would likely choose a principle of equitable sharing of global commons resources rather than a principle of freedom that benefits the capable at the expense of the incapable. The common heritage principle, on this reading, is the Rawlsian principle applied to the governance of the global ocean commons.

In practice, however, the common heritage principle has been significantly diluted in its application to the deep seabed, through the 1994 Implementation Agreement that modified the original UNCLOS Part XI framework in ways that substantially reduced the redistributive and governance ambitions of the original common heritage regime. And the BBNJ Agreement's benefit-sharing provisions for marine genetic resources, while philosophically aligned with the

common heritage concept, are still subject to negotiation and implementation uncertainties that make it unclear how much benefit developing states will actually receive in practice.

For Bangladesh, engaging critically with the politics of ocean governance and the question of justice is not merely an academic exercise. It is a practical necessity. Bangladesh must be an active participant in the governance institutions of the BBNJ Agreement, the ISA, and the regional fisheries management organisations, not merely a passive recipient of rules made by others. It must advocate forcefully for governance arrangements that genuinely distribute the benefits of ocean resources equitably and that strengthen the capacity of developing states to participate meaningfully in ocean governance. And it must ensure that its domestic legal and institutional framework is adequate to the demands of active international engagement.

CHAPTER TWO: THE BBNJ AGREEMENT: LEGAL ARCHITECTURE, PROVISIONS, AND JURISPRUDENTIAL SIGNIFICANCE

2.1 The Negotiation History of the BBNJ Agreement: Two Decades of Legal Creativity

The negotiation of the BBNJ Agreement was one of the longest, most complex, and most diplomatically demanding multilateral lawmaking processes in the history of international law. It spanned nearly two decades from the initial recognition of the governance gap in the late 1990s to the adoption of the Agreement in June 2023, and it involved five formal sessions of an intergovernmental negotiating conference, preceded by many years of preparatory work through an ad hoc open-ended informal working group established by the United Nations General Assembly in 2004.

The governance gap that the BBNJ Agreement was designed to address had been identified in the early 2000s in the context of the Convention on Biological Diversity's programme of work on marine and coastal biodiversity. The CBD, adopted in 1992, established the principle of national sovereignty over biological resources within national jurisdiction, the principle of access and benefit sharing, and the principle of conservation and sustainable use. But it explicitly excluded from its scope the biological diversity of areas beyond national jurisdiction, leaving those areas in a legal vacuum: the resources of the high seas and the deep seabed were not the sovereign property of any state, subject to any conservation obligation, or covered by any benefit-sharing requirement. They were simply free for any state or private actor with the technological capacity to collect and exploit them.

The recognition of this gap prompted the United Nations General Assembly, through Resolution 59/24 of 2004, to establish the ad hoc open-ended informal working group to study issues relating to the conservation and sustainable use of marine biological diversity beyond national jurisdiction. The working group met multiple times between 2006 and 2015, progressively building the conceptual and political basis for a new international instrument. The central issues that emerged from these deliberations were: the question of whether marine genetic resources of areas beyond national jurisdiction should be subject to a benefit-sharing regime; the question of what kinds of area-based management tools, including marine protected areas, should be

established in areas beyond national jurisdiction; the question of whether activities in areas beyond national jurisdiction should be subject to environmental impact assessment requirements; and the question of how capacity building and technology transfer obligations should be structured to ensure that developing states could meaningfully participate in the governance of areas beyond national jurisdiction.

These four issues became the four substantive elements of the BBNJ Agreement, known colloquially as the Package, a deliberate echo of the package deal approach of UNCLOS III that had produced the comprehensive Convention in 1982. The package approach was essential to the success of the negotiations: by linking the four elements, it allowed states with different primary interests to trade concessions across issue areas, enabling an overall balance that no single-issue negotiation could have achieved.

The intergovernmental conference to negotiate the new instrument was convened in 2018, following the General Assembly's adoption of Resolution 72/249. Five sessions of the conference were held, in 2018, 2019, 2022, and 2023 (two sessions in the final year), before agreement was reached in June 2023. The final session involved particularly intense negotiations, with the Conference president employing creative diplomatic techniques, including informal consultations, text-based negotiations, and extended sessions, to bridge the remaining differences between states. The adoption of the Agreement by consensus on 19 June 2023 was a genuine triumph of multilateral diplomacy.

The Agreement entered into force on 17 January 2026, having received the required sixty ratifications on 19 September 2025, when Morocco became the sixtieth party. By January 2026, the Agreement had eighty-two parties, a remarkably rapid rate of ratification for an instrument of this complexity and significance. The first Conference of the Parties is to be convened within one year of the entry into force, and preparatory work through a Preparatory Commission has been underway since April 2025.

Bangladesh's position in relation to the BBNJ Agreement is, at the time of writing this Part, that it was a signatory to the Agreement but had not yet completed the ratification process. This is a matter of considerable urgency, which this commentary addresses in detail in Chapter Seven.

2.2 The Structure and Legal Architecture of the BBNJ Agreement

The BBNJ Agreement is a complex and carefully structured legal instrument, comprising sixty-eight articles divided into nine parts, plus several annexes. It is expressly an implementing agreement under UNCLOS, as stated in its Preamble, meaning that it supplements and builds upon the UNCLOS framework without replacing or modifying any of its provisions. This relationship to UNCLOS is legally significant: it means that the BBNJ Agreement must be interpreted in a manner consistent with UNCLOS, that its provisions take effect within the constitutional framework of UNCLOS, and that states that are parties to UNCLOS but not to the BBNJ Agreement remain bound by their UNCLOS obligations but do not acquire the additional rights and obligations created by the BBNJ Agreement.

The governing principles of the BBNJ Agreement, enumerated in Article 5, are of foundational importance for the interpretation and application of its specific provisions. They include: the protection and preservation of the marine environment; the freedom of marine scientific research and other high seas freedoms; the common heritage of mankind in relation to the Area; cooperation between states; the obligation not to transfer damage or hazards from one area to another; the use of the best available science and scientific information; an ecosystem approach; a precautionary approach or precautionary principle; an integrated approach; the fair and equitable sharing of benefits; taking into account the needs and special circumstances of developing states, in particular the least developed countries, landlocked developing states, geographically disadvantaged states, small island developing states, coastal African states, and developing states, including coastal African states that are an archipelago; and relevant and compatible approaches and standards.

The enumeration of these principles reflects the extraordinary breadth of the philosophical commitments that the BBNJ Agreement embodies. The inclusion of both the common heritage of mankind principle and the freedom of marine scientific research and other high seas freedoms reflects the fundamental tension between these two principles that the Agreement must navigate. The inclusion of the precautionary approach, the ecosystem approach, and the integrated approach reflects the influence of modern environmental governance thinking on the Agreement's design. And the special attention given to developing states, with an extensive enumeration of the categories of developing states that require particular consideration, reflects the strong influence of equity concerns in the Agreement's political negotiation.

The relationship between the BBNJ Agreement and other international instruments and frameworks is addressed in Article 4, which establishes that the Agreement shall be interpreted and applied in a manner that does not undermine relevant legal instruments and frameworks and relevant global, regional, subregional, and sectoral bodies. This non-undermining principle, which was one of the most contentious issues in the negotiations, is intended to ensure that the BBNJ Agreement does not override or supersede the authority of existing bodies such as the International Maritime Organisation, the regional fisheries management organisations, the International Seabed Authority, and other bodies with mandates covering aspects of ocean governance in areas beyond national jurisdiction. The practical implementation of the non-undermining principle will be one of the most complex and legally significant challenges in the implementation of the Agreement, requiring careful coordination between the institutions of the Agreement and those existing bodies.

2.3 The Institutional Framework of the BBNJ Agreement

The institutional framework of the BBNJ Agreement is designed to provide effective governance of biodiversity in areas beyond national jurisdiction while respecting the autonomy of existing bodies and the sovereign equality of all parties. The principal institutions established by the Agreement are the Conference of the Parties, the Scientific and Technical Body, the Access and Benefit-Sharing Committee, the Capacity-Building and Transfer of Marine Technology Committee, the Finance Committee, the Implementation and Compliance Committee, and a Clearing-House Mechanism.

The Conference of the Parties is the supreme decision-making body of the Agreement. It comprises representatives of all parties and meets at regular intervals, with the first meeting to be held within one year of the Agreement's entry into force. The COP has broad authority to review the implementation of the Agreement, adopt decisions and recommendations for the effective implementation of the Agreement, and promote the development of compatible approaches at the regional and international level. The COP's decision-making procedures, including the scope of consensus requirements and the procedures for resolution of disagreements, will be critical to the effectiveness of the Agreement's governance arrangements.

The Scientific and Technical Body is the epistemic foundation of the Agreement's governance system. It provides scientific and technical advice to the COP on all aspects of the Agreement's implementation, including the assessment and monitoring of marine biological diversity in areas beyond national jurisdiction, the review of environmental impact assessment reports, and the development of guidance on the identification of areas requiring area-based management tools including marine protected areas. The composition and working methods of the Scientific and Technical Body, including the balance between scientific expertise and political representation, will significantly affect the quality of the scientific advice it provides and therefore the effectiveness of the Agreement's governance of marine biodiversity.

The Clearing-House Mechanism, established under Article 51 of the Agreement, is the information infrastructure of the governance system. It is to provide a platform for sharing information on marine scientific research, environmental impact assessments, area-based management tools, capacity building and technology transfer initiatives, and other relevant information. The Clearing-House Mechanism is particularly important for developing states like Bangladesh, which lack the institutional capacity to independently monitor and analyse developments in areas beyond national jurisdiction, and for which access to shared information is a precondition for meaningful participation in the governance of the Agreement.

The finance committee and the access and benefit-sharing committee address the distributional dimensions of the Agreement: how the costs of governance are shared among parties and how the benefits of marine genetic resources are shared equitably. These two committees are likely to be among the most contested and politically significant institutions of the Agreement, since they deal directly with the questions of resource allocation and benefit distribution that were at the heart of the negotiating tensions between developed and developing states.

2.4 The Relationship between the BBNJ Agreement and UNCLOS: A Constitutional Analysis

The legal relationship between the BBNJ Agreement and UNCLOS is fundamental to understanding the Agreement's place in the architecture of international maritime law and its implications for states like Bangladesh. The Agreement describes itself as an implementing agreement under UNCLOS, using the same terminology as the 1994 Agreement on the implementation of Part XI and the 1995 Fish Stocks Agreement. This characterisation has several important legal consequences.

First, as an implementing agreement under UNCLOS, the BBNJ Agreement is legally subordinate to UNCLOS: it cannot derogate from or modify the provisions of UNCLOS, and where there is a conflict between the two instruments, UNCLOS prevails. This means that the provisions of the BBNJ Agreement must be interpreted and applied in a manner consistent with the UNCLOS framework of maritime zones, freedoms, and obligations. The freedom of scientific research on the high seas, for example, which is guaranteed by UNCLOS Article 87, cannot be abolished or fundamentally restricted by the BBNJ Agreement's provisions on marine genetic resources; rather, the Agreement must establish a framework for benefit sharing that is compatible with the continued exercise of that freedom.

Second, because the BBNJ Agreement is an implementing agreement under UNCLOS, disputes concerning its interpretation and application are subject to the dispute settlement system of UNCLOS under Part XV of the Convention. This means that the International Tribunal for the Law of the Sea, the International Court of Justice, and Annex VII arbitral tribunals all have jurisdiction over disputes arising under the BBNJ Agreement, in accordance with the choices made by the disputing parties under UNCLOS Article 287. The extension of the ITLOS and PCA dispute settlement framework to the BBNJ Agreement significantly strengthens the agreement's enforcement architecture compared to many other international environmental instruments, which lack binding dispute settlement mechanisms.

Third, as an implementing agreement under UNCLOS, the BBNJ Agreement is only binding on states that have both ratified UNCLOS and ratified the BBNJ Agreement, or on states that access the Agreement through ratification without prior UNCLOS ratification in certain circumstances. States that have ratified UNCLOS but not the BBNJ Agreement are not bound by the Agreement's benefit-sharing, environmental impact assessment, or area-based management provisions, but they remain bound by the UNCLOS provisions on the high seas, the Area, and marine environmental protection. This creates an incentive for all UNCLOS parties to ratify the BBNJ Agreement, since non-participation means forgoing the benefits of the Agreement while remaining subject to its governance implications where they overlap with UNCLOS obligations.

For Bangladesh, which has ratified UNCLOS but has not yet ratified the BBNJ Agreement, this legal analysis has direct practical implications. Bangladesh is missing the opportunity to participate in the development of the Agreement's implementing rules and procedures at the critical early stage of its institutional life, when the COP, the Scientific and Technical Body, the Access and Benefit-Sharing Committee, and the other institutions are being established and their working methods are being defined. Early participation in international treaty governance is typically much more influential than late participation: the rules and procedures adopted in the first years of a treaty's implementation tend to persist and to constrain future development in ways that disadvantage latecomers. Bangladesh must ratify the BBNJ Agreement as a matter of urgent priority.

CHAPTER THREE: MARINE GENETIC RESOURCES AND BENEFIT SHARING: LEGAL, ECONOMIC, AND PHILOSOPHICAL ANALYSIS

3.1 Marine Genetic Resources: Biological Significance and Economic Value

Marine genetic resources are the biological materials from marine organisms, including microorganisms, plants, animals, and other life forms, that contain functional units of heredity and that are or may be of value to humanity. The deep ocean and the high seas are repositories of biological diversity of extraordinary richness and novelty: the extreme conditions of the deep sea, including high pressure, low temperature, total darkness, and variable chemical environments, have driven the evolution of organisms with biochemical and physiological adaptations that are of significant scientific and commercial interest.

Marine organisms from areas beyond national jurisdiction have been the source of a range of commercially valuable compounds, including pharmaceuticals, industrial enzymes, cosmetics, and food ingredients. Omega-3 fatty acids, originally derived from marine organisms, are a major global industry. Compounds derived from deep-sea organisms have been explored as potential treatments for cancer, HIV/AIDS, and other diseases. Thermostable enzymes from deep-sea hydrothermal vent organisms have been used in the polymerase chain reaction technology that is fundamental to modern molecular biology and medical diagnostics. The commercial value of these applications runs into the billions of dollars, and the potential for further discovery is enormous given the vast unexplored biodiversity of the deep ocean.

The governance challenge is to ensure that the benefits of this biological wealth are shared equitably among all states, and not captured exclusively by the technologically advanced states whose research fleets and biotechnology companies have the capacity to collect and exploit these resources. Under the pre-BBNJ Agreement legal regime, marine genetic resources collected from the high seas were effectively free for the taking: any state or company with the capacity to collect them could do so, could patent the discoveries made from them, and could commercialise the resulting products without any obligation to share the benefits with other states or with the international community. The result was a highly unequal distribution of benefits: the major pharmaceutical and biotechnology companies of the United States, the European Union, and Japan acquired patents on marine-derived compounds and generated enormous commercial value, while developing states with no capacity for deep-sea collection received nothing.

The BBNJ Agreement's provisions on marine genetic resources, contained in Part II, Articles 9 to 13, address this governance failure. They establish that all parties have the right to conduct marine scientific research on marine genetic resources in areas beyond national jurisdiction, consistent with the freedoms of the high seas under UNCLOS. They require parties to take measures to ensure fair and equitable sharing of benefits arising from activities in relation to marine genetic resources, including sharing of monetary benefits through a special fund managed by the Agreement's institutions. They require parties to deposit information about collected samples and sequences in publicly accessible databases, supporting the non-monetary benefit of open access to scientific information. And they create a Conference of the Parties fund through which monetary benefits from the commercial exploitation of marine genetic resources are to be channelled and distributed to all parties, with priority for developing states.

3.2 The Legal Framework for Benefit Sharing: Analysis and Commentary

The BBNJ Agreement's benefit-sharing framework for marine genetic resources is a carefully negotiated compromise between the interests of states that collect and commercialise these resources, primarily technologically advanced states, and the interests of states that lack such capacity but that assert a right to benefit from resources that belong, in principle, to all humankind. The framework is not as comprehensive or as redistributive as many developing states had advocated during the negotiations, but it represents a significant advance over the pre-Agreement situation of complete non-regulation.

The monetary benefit-sharing obligations under the Agreement apply to the commercialisation of marine genetic resources derived from areas beyond national jurisdiction. Parties that commercialise such resources, or that authorise natural or juridical persons under their jurisdiction to do so, are required to make payments to the special fund at rates and through mechanisms to be determined by the COP. The payments are to be made upon the commercialisation of a product and are calculated on a percentage basis relative to the revenues generated by the commercialisation. The COP has significant discretion in setting the payment rates and mechanisms, and the effectiveness of the monetary benefit-sharing system will depend critically on the COP's decisions in this regard.

The non-monetary benefit-sharing obligations are, in many respects, more immediately significant for developing states like Bangladesh than the monetary obligations. The Agreement requires that parties share scientific information, data, samples, and materials with other parties on fair and equitable terms; that they provide capacity building and technology transfer to developing parties; that they support the participation of scientists from developing states in research activities relating to marine genetic resources; and that they deposit digital sequence information from collected samples in publicly accessible databases. These non-monetary benefits are immediately available and do not depend on the commercial success of any particular application of collected genetic resources.

From a jurisprudential perspective, the benefit-sharing framework raises important questions about the nature of the rights that it creates and the corresponding obligations it imposes. The framework does not clearly establish that the marine genetic resources of areas beyond national jurisdiction are the common heritage of mankind in the same sense as the mineral resources of the Area; rather, it establishes a benefit-sharing regime without clearly resolving the underlying question of the legal status of these resources. This ambiguity was deliberate: the developed states resisted the explicit characterisation of marine genetic resources as common heritage, preferring to treat them as subject to the high seas freedom of research, while agreeing to benefit-sharing obligations that partially achieved the redistributive goals of the common heritage principle. The legal consequences of this deliberate ambiguity will be worked out in the jurisprudence of the COP and, potentially, in dispute settlement proceedings.

For Bangladesh, the benefit-sharing framework creates both rights and obligations. Bangladesh is entitled to receive a share of the monetary benefits generated by the commercialisation of marine genetic resources from areas beyond national jurisdiction, and it is entitled to receive non-monetary benefits including scientific information and capacity-building assistance. But Bangladesh also has obligations under the framework: if Bangladeshi researchers or companies collect marine genetic resources from areas beyond national jurisdiction, Bangladesh is required

to ensure that the relevant benefit-sharing obligations are met. This creates a need for domestic implementing legislation that establishes the regulatory framework for Bangladeshi activities related to marine genetic resources in areas beyond national jurisdiction, a framework that does not currently exist in Bangladeshi law.

3.3 Digital Sequence Information and the Governance of Biological Knowledge

One of the most technically complex and politically contentious issues in the BBNJ Agreement negotiations was the question of digital sequence information from marine genetic resources, often abbreviated as DSI. DSI refers to the digital representations of the genetic sequences of organisms, stored in databases such as GenBank and the INSDC network of databases, which can be accessed freely by anyone with an internet connection. Once the genetic sequence of an organism has been digitised and deposited in a publicly accessible database, it is effectively available to any researcher or company in the world to use for research, development, and commercialisation, without any collection of physical samples.

The governance challenge of DSI is that the benefit-sharing obligations of the BBNJ Agreement, and indeed of the CBD and the Nagoya Protocol in the domestic context, were historically framed around the physical collection of samples. If a researcher collects a physical sample of an organism from the high seas, transfers it to a laboratory, and uses it to develop a commercial product, the benefit-sharing obligations of the Agreement are engaged. But if the researcher simply downloads the genetic sequence of the same organism from a freely accessible database, and uses that sequence to develop a commercial product through computational biology and synthetic biology techniques, without ever physically collecting or possessing a sample, the traditional benefit-sharing framework may not be engaged at all.

This creates an enormous governance gap: as biotechnology increasingly relies on digital genetic information rather than physical samples, the benefit-sharing obligations that are intended to ensure equitable distribution of the benefits of biological diversity may be systematically evaded through the substitution of digital information access for physical sample collection. The BBNJ Agreement addresses this gap through provisions requiring that DSI from marine genetic resources collected in areas beyond national jurisdiction be deposited in publicly accessible databases and that contributions to the special fund from the commercialisation of marine-genetic-resource-derived products apply regardless of whether the product was developed from physical samples or from DSI.

The DSI provisions of the BBNJ Agreement represent a significant jurisprudential innovation. They extend the governance framework for biological resources beyond the physical world into the digital world, recognising that in the twenty-first century the line between the physical collection of biological materials and the digital capture of biological information is becoming increasingly blurred. This extension has implications that extend far beyond the BBNJ Agreement, since the same question of governance of digital biological information arises in the context of the CBD, the Nagoya Protocol, and a range of other international agreements that regulate access to and benefit sharing from biological resources.

For Bangladesh, the DSI issue is relevant in two respects. First, as a potential beneficiary of the benefit-sharing system, Bangladesh has an interest in ensuring that the monetisation of DSI from high seas organisms is subject to benefit-sharing obligations rather than evading the system through the digital route. Second, as a state with an increasingly active marine science community, Bangladesh may in the future generate DSI from marine organisms collected in the Bay of Bengal, and the legal framework governing the deposit and use of such information is of direct relevance.

CHAPTER FOUR: AREA-BASED MANAGEMENT TOOLS AND MARINE PROTECTED AREAS IN THE HIGH SEAS

4.1 The Conceptual Foundation of Area-Based Management

Area-based management is a governance approach that identifies specific geographic areas for special attention, regulation, or protection, on the basis of their ecological significance, their vulnerability to human impacts, or their contribution to broader conservation objectives. In the marine context, area-based management tools include marine protected areas, fisheries management areas, special areas under MARPOL, particularly sensitive sea areas under the IMO framework, and a range of other instruments that restrict or regulate human activities in defined ocean spaces.

The case for area-based management in the high seas rests on several pillars of ecological science and conservation philosophy. First, marine ecosystems are not uniform in their ecological value or vulnerability: some areas, such as seamount systems, mid-ocean ridge habitats, cold-water coral communities, and deep-sea hydrothermal vent systems, support concentrations of biodiversity, endemic species, and unique ecological processes that are of outstanding global significance and that are particularly vulnerable to human impacts. These areas deserve special protection that cannot be achieved through generic high seas governance rules but requires area-specific management measures. Second, the open ocean is not an ecological island; it is deeply connected to coastal and EEZ ecosystems through the movements of marine animals, the circulation of nutrients and pollutants, and the propagation of ecological processes across ocean space. Protecting critical high seas habitats, migration routes, and spawning areas can be essential to the health of coastal and EEZ ecosystems, creating a governance linkage between the high seas and areas under national jurisdiction. Third, the 30 by 30 target, the international commitment under the Kunming-Montreal Global Biodiversity Framework to protect thirty per cent of the world's oceans by 2030, cannot be achieved without establishing marine protected areas in the high seas, since the marine areas under national jurisdiction do not encompass sufficient ecological diversity to represent thirty per cent of the global marine environment.

4.2 The BBNJ Agreement's Framework for Area-Based Management Tools

Part III of the BBNJ Agreement, comprising Articles 14 to 27, establishes the framework for area-based management tools in areas beyond national jurisdiction. This framework is the most

institutionally complex and the most practically significant element of the Agreement, since it creates for the first time the legal authority and institutional machinery for establishing marine protected areas and other area-based management measures in the high seas.

Under the Agreement, any party may propose the establishment of an area-based management tool in an area beyond national jurisdiction. The proposal is submitted to the COP, accompanied by scientific and technical information supporting the proposal and an indication of the conservation and management measures being proposed. The COP then considers the proposal, taking into account the advice of the Scientific and Technical Body, the views of existing relevant bodies, and the principle of non-undermining of those bodies' authority, before adopting a decision to establish, modify, or not to establish the proposed area-based management tool.

The legal character of the area-based management tools established under the Agreement is a matter of some complexity. They are adopted by decision of the COP, which is the supreme decision-making body of the Agreement, and they are legally binding on all parties to the Agreement. This means that the Agreement establishes, for the first time, an international authority with the legal power to designate areas of the high seas for special protection and to impose conservation and management measures on all parties in those areas. This is a significant departure from the pre-Agreement situation in which no international body had the authority to establish binding conservation measures for specific areas of the high seas without the consent of individual states.

The practical effectiveness of the area-based management tool framework will depend on the resolution of a number of difficult questions that the Agreement leaves to the COP to resolve. How will the COP determine which areas qualify for area-based management measures? What kinds of conservation and management measures can be included in an area-based management tool decision? How will the authority of the COP over high seas area-based management relate to the authority of existing bodies like the regional fisheries management organisations and the IMO? And how will compliance with area-based management tool measures be monitored and enforced?

4.3 Bangladesh and High Seas Area-Based Management: Interests and Obligations

Bangladesh has both interests and obligations in relation to the area-based management tool framework of the BBNJ Agreement. On the interest side, Bangladesh's marine ecosystem depends on ecological processes that originate in or are significantly influenced by high seas areas of the Bay of Bengal and the broader Indian Ocean. The productivity of Bangladesh's coastal fisheries, which depends on the recruitment of juvenile fish from offshore spawning areas, the circulation of nutrients from the open ocean, and the movements of migratory species between coastal and high seas habitats, is directly connected to the ecological health of high seas areas beyond Bangladesh's EEZ. The establishment of effectively managed marine protected areas in critical high seas habitats of the Bay of Bengal could benefit Bangladesh's fisheries, its coastal ecosystems, and the livelihoods of its coastal fishing communities.

Bangladesh also has an interest in influencing the process by which area-based management tools are established in the high seas areas of the Bay of Bengal region. If marine protected areas

are established in areas where Bangladeshi fishing vessels or research activities operate, those protected areas will impose restrictions on Bangladeshi activities. Bangladesh should therefore be at the table when these decisions are made, advocating for governance arrangements that are equitable, science-based, and sensitive to the needs of developing coastal states.

On the obligation side, as a party to the BBNJ Agreement once it completes ratification, Bangladesh will be required to ensure that its nationals and vessels comply with area-based management tool measures adopted by the COP. This will require domestic implementing legislation establishing the legal authority to regulate Bangladeshi fishing vessels, research vessels, and other maritime activities in accordance with high seas area-based management measures. The current Bangladeshi maritime legal framework does not contain such provisions, and their development will be an important element of the domestic legislative reform agenda that this treatise advocates.

CHAPTER FIVE: ENVIRONMENTAL IMPACT ASSESSMENT IN AREAS BEYOND NATIONAL JURISDICTION

5.1 The Principle of Environmental Impact Assessment in International Law

Environmental impact assessment is one of the foundational principles of modern environmental law and governance. It requires that before undertaking activities that may cause significant harm to the environment, the relevant authority or proponent assesses the likely environmental impacts of the activity, considers alternatives, and takes measures to avoid or mitigate identified harms. The principle has been widely adopted in domestic legal systems and in international environmental law, and it has been confirmed as a requirement of customary international law by the International Court of Justice in the Pulp Mills case of 2010, where the Court held that a state's due diligence obligation to prevent transboundary environmental harm includes the obligation to conduct an environmental impact assessment.

The application of environmental impact assessment to activities in areas beyond national jurisdiction was, before the BBNJ Agreement, extremely limited. UNCLOS Part XII imposes obligations on states to assess the potential effects of activities on the marine environment, but these provisions were generally understood to apply to activities in areas under national jurisdiction rather than in areas beyond national jurisdiction. There was no international instrument that systematically required states to conduct environmental impact assessments for activities on the high seas or in the Area, and the environmental governance of these areas was therefore characterised by a significant procedural gap.

5.2 The BBNJ Agreement's Environmental Impact Assessment Framework

Part IV of the BBNJ Agreement, comprising Articles 28 to 40, establishes for the first time a global standard for environmental impact assessment of activities in areas beyond national jurisdiction. This framework applies to activities planned to be carried out in areas beyond national jurisdiction that may cause substantial pollution of or significant and harmful changes to

the marine environment. Each party is required, when activities under its jurisdiction or control in areas beyond national jurisdiction may have the relevant impacts, to conduct an environmental impact assessment of those activities before authorising them or before undertaking them themselves.

The EIA framework of the BBNJ Agreement applies to the full range of human activities in areas beyond national jurisdiction, including marine scientific research, commercial fishing, bioprospecting for marine genetic resources, deep-sea mining exploration, offshore energy activities, the laying of submarine cables and pipelines, and the establishment of artificial islands and installations. The breadth of this scope is significant: it subjects for the first time all major categories of human activity in the high seas and the Area to systematic environmental scrutiny before they are authorised.

The procedural requirements of the EIA framework include: a screening stage at which the party determines whether the planned activity meets the threshold for a full EIA; a scoping stage at which the party identifies the aspects of the environment to be assessed and the methodology to be used; a public notification and consultation stage; the preparation and publication of a full environmental impact assessment report; and a decision on whether to authorise the activity in light of the assessment findings. The COP is to develop minimum standards and guidelines for these procedures, and parties must ensure that their national EIA systems meet these minimum standards.

The BBNJ Agreement's EIA framework is particularly significant for its provisions on cumulative impacts and strategic environmental assessment. Cumulative impacts are the combined effects of multiple activities or of a single activity over time, which may individually fall below the EIA threshold but in combination cause significant environmental harm. The Agreement requires that EIAs take into account cumulative impacts, reflecting the scientific understanding that the marine environment is being degraded not by individual catastrophic events but by the accumulated pressure of multiple activities across large ocean areas over extended time periods. Strategic environmental assessment, which assesses the environmental implications of policies, plans, and programmes rather than individual projects, is also referenced in the Agreement as a tool to be used where appropriate.

5.3 The Due Diligence Standard and the BBNJ Agreement

The BBNJ Agreement's EIA framework is grounded in the due diligence standard of international law, which, as confirmed by the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion, requires states to take all necessary measures to prevent, reduce, and control marine pollution caused by activities under their jurisdiction or control. The due diligence standard is not an absolute obligation of result; it is an obligation of conduct, requiring states to exercise the level of care and diligence appropriate to the risk of harm from the relevant activity.

For activities in areas beyond national jurisdiction, the due diligence standard requires that states exercise effective control over the activities of their nationals and flag vessels in those areas, that they establish and implement an EIA system meeting the Agreement's minimum standards, and that they take appropriate measures to avoid or mitigate identified environmental impacts. The

specific content of the due diligence obligation will vary with the level of risk posed by the activity: high-risk activities such as deep-sea mining require a higher standard of care and more stringent EIA requirements than lower-risk activities such as routine scientific research.

The interaction between the BBNJ Agreement's EIA framework and the ISA's regulatory framework for deep-sea mining in the Area is of particular significance. The ISA has developed a Mining Code for the regulation of deep-sea mining activities in the Area, which includes environmental impact assessment requirements. The BBNJ Agreement's EIA framework is intended to be compatible with and complementary to the ISA's framework, rather than duplicative or contradictory. The non-undermining principle requires that the BBNJ Agreement's EIA provisions be implemented in a manner that does not undermine the ISA's authority or duplicate its processes. The practical reconciliation of these two frameworks will be a complex governance challenge that will be worked out through the COP's institutional arrangements and through the coordination mechanisms between the BBNJ Agreement's institutions and the ISA.

For Bangladesh, the EIA framework creates obligations in relation to any activities that Bangladesh or Bangladeshi entities undertake in areas beyond national jurisdiction. If Bangladesh were to authorise a national company or research institution to conduct activities in the high seas or the Area that could have significant environmental impacts, the EIA obligations of the BBNJ Agreement would apply. The domestic implementing legislation for the BBNJ Agreement must therefore establish an EIA framework for activities in areas beyond national jurisdiction that meets the Agreement's minimum standards, and the relevant regulatory authorities must have the institutional capacity to administer that framework effectively.

CHAPTER SIX: CAPACITY BUILDING, TECHNOLOGY TRANSFER, AND DEVELOPMENT JUSTICE

6.1 The Political Economy of Ocean Science and Technology

The governance of areas beyond national jurisdiction raises profound questions of development justice, because the capacity to participate meaningfully in that governance, to conduct marine scientific research in deep waters, to collect and analyse marine genetic resources, to monitor high seas ecosystems, and to operate effectively in the institutions of the BBNJ Agreement, is very unequally distributed among states. The major maritime powers, particularly the United States, the European Union, Japan, China, Australia, and a handful of others, possess world-class oceanographic research fleets, sophisticated marine scientific institutions, advanced biotechnology industries, and extensive expertise in international ocean governance. The vast majority of developing states, including Bangladesh, lack most or all of these capacities.

This asymmetry of capacity is not merely an empirical fact about the current distribution of scientific and technological capabilities; it is the product of historical processes of colonialism, unequal development, and structural inequality in the global economy that have concentrated scientific and technological capacity in the global North while leaving the global South largely dependent on technologies and knowledge produced elsewhere. The implications of this

asymmetry for the governance of areas beyond national jurisdiction are severe: if the rules governing these areas are made primarily by states with the capacity to exploit them, and if the benefits of the resources of these areas flow primarily to those same states, then the BBNJ Agreement will merely replicate in the ocean governance context the broader patterns of inequality that characterise the global political economy.

6.2 The BBNJ Agreement's Provisions on Capacity Building and Technology Transfer

Part V of the BBNJ Agreement, comprising Articles 41 to 48, addresses capacity building and the transfer of marine technology. These provisions are among the most practically significant elements of the Agreement for developing states like Bangladesh, since they create a framework of obligations and mechanisms for addressing the capability asymmetries that threaten to undermine the Agreement's equity objectives.

The general obligation established in Article 41 is that parties are to cooperate, directly or through competent international bodies, to promote capacity building and the development and transfer of marine technology, with the goal of supporting developing state parties in the implementation of the Agreement. This obligation is qualified by the standard international law caveat that transfer of technology is to occur on mutually agreed terms, including on fair and most favourable terms where possible, taking into account the need to protect intellectual property rights. The intellectual property qualification is significant: it acknowledges that much marine technology is privately owned and that the state parties cannot simply require private companies to transfer their proprietary technologies to developing states. However, it also creates an obligation on state parties to take affirmative measures to facilitate technology access, not merely to permit it in principle.

The specific capacity-building activities envisioned by the Agreement include: strengthening and building the scientific, technical, and institutional capacities of developing state parties to access, collect, and analyse marine genetic resources; supporting the development of national EIA systems meeting the Agreement's standards; training scientists and other relevant personnel in marine science, law, and governance; supporting participation of developing state scientists and officials in relevant international bodies; providing financial support for developing state participation in the COP and its subsidiary bodies; and supporting the development of national policies and legislation necessary for the implementation of the Agreement.

The institutional framework for capacity building and technology transfer includes a dedicated Capacity-Building and Technology Transfer Committee, which is to coordinate and oversee the implementation of the relevant provisions of the Agreement. The Committee is to assess needs and priorities, develop guidance on best practices, facilitate partnerships between institutions in developed and developing states, and report to the COP on the implementation of capacity building and technology transfer commitments.

6.3 Bangladesh's Capacity Building Needs and Opportunities

Bangladesh's capacity building needs in relation to the BBNJ Agreement are extensive and span multiple dimensions: scientific and technical capacity to conduct deep-sea research and to collect

and analyse marine genetic resources; legal and institutional capacity to implement the Agreement's obligations domestically and to participate effectively in its governance bodies; financial capacity to fund the relevant activities and to fulfil Bangladesh's financial obligations under the Agreement; and diplomatic capacity to engage strategically in the governance processes of the Agreement and to advocate effectively for Bangladesh's interests.

In the scientific and technical domain, Bangladesh's marine science capacity has grown significantly in recent decades, with the establishment of the Institute of Marine Sciences at the University of Chittagong, the development of the Bangladesh Oceanographic Research Institute, and the growing cadre of Bangladeshi scientists trained in marine biology, oceanography, and related disciplines. However, Bangladesh lacks the deep-sea research capability, in terms of research vessels, submersibles, and deep-sea sampling equipment, that would enable it to collect and analyse marine genetic resources from areas beyond national jurisdiction. The BBNJ Agreement's capacity-building provisions provide an opportunity to address this gap, by obtaining access to developed state research facilities, participating in collaborative research expeditions, and eventually developing Bangladesh's own deep-sea research capacity.

In the legal and institutional domain, Bangladesh needs to develop domestic implementing legislation for the BBNJ Agreement, establish or designate the national competent authority responsible for implementing the Agreement's obligations, and develop the institutional capacity to administer an EIA system for activities in areas beyond national jurisdiction. The legal reforms advocated in this Part are essential prerequisites for Bangladesh's effective participation in the Agreement's governance system.

In the diplomatic and governance domain, Bangladesh needs to develop a strategic approach to its engagement with the BBNJ Agreement's institutions, identifying the areas where Bangladeshi interests are most affected, building coalitions with like-minded developing states, and ensuring that Bangladeshi officials and scientists are represented in the relevant governance bodies. The Coalition of Small Island States approach, in which a group of states with common interests coordinates their positions and strategies in international negotiations, provides a model that Bangladesh and other Bay of Bengal states could usefully adapt in their engagement with the BBNJ Agreement.

CHAPTER SEVEN: BANGLADESH'S POSITION, OBLIGATIONS, AND STRATEGIC OPPORTUNITIES UNDER THE BBNJ AGREEMENT

7.1 Bangladesh's Engagement with the BBNJ Negotiations

Bangladesh participated in the negotiations for the BBNJ Agreement as a member of the Group of 77 and China, the principal negotiating coalition of developing states in international environmental negotiations. Within this coalition, Bangladesh generally aligned with the positions of small island developing states and other developing coastal states in advocating for a strong benefit-sharing regime for marine genetic resources, meaningful capacity-building and

technology transfer obligations, and an area-based management framework that gives adequate weight to the interests of developing states.

Bangladesh signed the BBNJ Agreement during the signature period from September 2023 to September 2025, signalling its political support for the Agreement and its intention to ratify. However, as of the time of writing this Part, Bangladesh had not completed the ratification process, meaning that it is not yet a party to the Agreement and is therefore not entitled to participate in the COP or its subsidiary bodies. Given that the Agreement entered into force on 17 January 2026 and that the first COP is to be convened within one year of entry into force, the urgency of completing the ratification process cannot be overstated.

The legal requirements for ratification of the BBNJ Agreement under Bangladesh's constitutional framework require parliamentary approval of the decision to ratify, since the Agreement creates binding international obligations that affect the rights and duties of the state. The relevant provisions of the Constitution of Bangladesh and the treaty-making practice of the government must be followed. The Ministry of Foreign Affairs, in coordination with the Ministry of Law, Justice and Parliamentary Affairs and the Ministry of Fisheries and Livestock, should prepare the necessary documentation for parliamentary consideration without delay.

Beyond the formal ratification process, Bangladesh needs to prepare its domestic legal and institutional framework for the implementation of the Agreement. This is a substantial task, as described in the preceding chapters, and it requires a comprehensive legislative reform programme that cannot be completed quickly. However, the initiation of this reform programme should not await the completion of ratification; indeed, the planning and preparation of domestic implementing legislation should proceed in parallel with the ratification process, so that the necessary domestic legal infrastructure is in place as soon as possible after ratification takes effect.

7.2 The Strategic Significance of the BBNJ Agreement for Bangladesh

The BBNJ Agreement has strategic significance for Bangladesh at multiple levels. At the most fundamental level, the Agreement affects the ecological health of the ocean environment on which Bangladesh's economy, food security, and the livelihoods of millions of its coastal inhabitants directly depend. The establishment of effectively managed marine protected areas in critical high seas habitats of the Bay of Bengal, the requirement of environmental impact assessments for activities that could harm high seas ecosystems, and the benefit-sharing obligations that provide equitable access to the value of marine genetic resources all serve Bangladesh's long-term ecological and economic interests.

At the economic level, the BBNJ Agreement opens potential revenue streams for Bangladesh through the benefit-sharing mechanisms for marine genetic resources. The extent of these revenue streams is uncertain and will depend on the commercial success of products derived from high seas marine genetic resources and on the payment rates set by the COP. But the potential is significant, given the enormous commercial value of biotechnology products derived from marine organisms, and Bangladesh should engage actively in the COP's deliberations on

benefit-sharing mechanisms to ensure that the system is designed in a manner that generates substantial benefits for developing states.

At the scientific and institutional level, the BBNJ Agreement's capacity-building provisions provide Bangladesh with access to international support for the development of its marine science and marine governance capabilities. Bangladesh should develop a strategic capacity-building agenda, identifying specific scientific, technical, legal, and institutional capacities that it needs to develop and seeking targeted assistance from developed state parties and international organisations to address those needs. The Clearing-House Mechanism of the Agreement is a particularly valuable resource, providing access to shared information on marine scientific research, technology, and best practices.

At the diplomatic and geopolitical level, the BBNJ Agreement is a component of the broader architecture of international ocean governance that is being reshaped by the entry into force of this Agreement and by other recent developments, including the ITLOS and ICJ advisory opinions on climate change. Bangladesh's active and constructive participation in this governance system strengthens its position as a responsible maritime state and enhances its credibility in advocating for equitable governance of the global ocean commons. This diplomatic positioning has value beyond the BBNJ Agreement itself, since it contributes to Bangladesh's broader profile as an active and principled member of the international community.

7.3 The Reform Agenda for BBNJ Implementation in Bangladesh

The implementation of the BBNJ Agreement in Bangladesh requires a comprehensive reform agenda covering legislation, institutions, personnel, and diplomatic engagement. This section outlines the principal elements of this reform agenda, drawing on the analysis in preceding chapters.

On the legislative front, Bangladesh needs to enact domestic implementing legislation for the BBNJ Agreement that addresses several distinct elements. First, the legislation must establish the legal authority for Bangladesh to regulate the activities of its nationals and flag vessels in areas beyond national jurisdiction in accordance with the Agreement's requirements, including EIA requirements, benefit-sharing obligations, and compliance with area-based management tool decisions. Second, the legislation must designate the national competent authority or authorities responsible for implementing the Agreement and specify the regulatory framework for their functions. Third, the legislation must establish the domestic framework for the collection and reporting of benefit-sharing payments from the commercial exploitation of marine genetic resources by Bangladeshi nationals or companies. Fourth, the legislation must address the interface between the BBNJ Agreement's obligations and Bangladesh's existing maritime law framework, including the Territorial Waters and Maritime Zones Act and its amendments.

On the institutional front, Bangladesh needs to establish or strengthen the national body responsible for coordinating the implementation of the BBNJ Agreement across the relevant government ministries and agencies. This body, which might be located within the Ministry of Foreign Affairs or the Ministry of Fisheries and Livestock, should be staffed with personnel having expertise in international environmental law, marine science, and ocean governance, and

it should have the authority to coordinate the activities of all relevant ministries in relation to the Agreement.

On the capacity-building front, Bangladesh should develop a strategic plan for accessing the capacity-building and technology transfer resources available under the BBNJ Agreement. This plan should identify specific capacity gaps in marine science, legal expertise, and institutional capacity; identify the international partners, including developed state parties and international organisations, that can provide relevant assistance; and establish a timeline and monitoring framework for the implementation of capacity-building initiatives.

On the diplomatic front, Bangladesh should identify and engage with the coalitions of like-minded states within the BBNJ Agreement governance system, particularly developing coastal states with interests similar to Bangladesh's in the Bay of Bengal and Indian Ocean regions. The BIMSTEC framework provides a natural starting point for regional coordination in relation to the BBNJ Agreement, since all BIMSTEC members are developing states with significant interests in the Bay of Bengal's marine biodiversity and resources.

CHAPTER EIGHT: THE INTERNATIONAL SEABED AUTHORITY, DEEP SEABED GOVERNANCE, AND BANGLADESH'S INTERESTS IN THE AREA

8.1 The Legal Regime of the Area under UNCLOS

The Area, defined in Article 1(1)(1) of UNCLOS as the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction, is governed by one of the most philosophically ambitious and institutionally innovative provisions of modern international law. Part XI of UNCLOS, comprising Articles 133 to 191, establishes the common heritage of mankind as the governing principle of the Area and creates the International Seabed Authority (ISA) as the international organisation through which parties to UNCLOS organise and control activities in the Area.

The common heritage of mankind principle, as applied to the Area in Part XI, has several distinct dimensions. First, it means that neither the Area itself nor its resources can be claimed by or appropriated by any state, person, or natural or juridical person; all rights in the resources of the Area are vested in mankind as a whole, on whose behalf the ISA acts. Second, it means that activities in the Area must be carried out for the benefit of mankind as a whole, irrespective of the geographical location of states, with particular consideration for the interests and needs of developing states. Third, it means that the Area must be used exclusively for peaceful purposes. Fourth, it means that activities in the Area must be carried out, as far as practicable, with due consideration for other activities in the marine environment, including fishing, the protection of the marine environment, marine scientific research, and other uses of the marine environment.

The original Part XI framework of UNCLOS established the International Seabed Authority as the governing body for the Area, with extensive powers to grant licences for seabed mining activities, to collect and distribute revenues from those activities, and to conduct mining

activities directly through its operational arm, the Enterprise. The Part XI framework also imposed significant technology transfer obligations on sponsored mining companies, requiring them to make their mining technology available to the Enterprise and to developing states on fair and reasonable commercial terms.

This ambitious framework was, however, never fully implemented as originally designed. The major industrialised states, most notably the United States, refused to ratify UNCLOS in part because of their objections to the common heritage framework of Part XI, which they regarded as fundamentally incompatible with market principles and as an unacceptable precedent for the governance of other global commons. To bring these states within the UNCLOS framework, a 1994 Implementation Agreement modified the Part XI provisions in significant ways, substantially reducing the redistributive and governance ambitions of the original common heritage regime. The Enterprise's guaranteed access to mining technology was eliminated; the transfer of technology requirements were weakened; the governance structure of the ISA was modified to give industrialised states greater influence; and the production limitations that had been designed to protect land-based mineral producers in developing countries were removed.

The modified Part XI framework that resulted from the 1994 Implementation Agreement is a compromise between the original common heritage vision and the market-oriented preferences of the industrialised states. The common heritage principle remains the governing philosophical framework, but its practical content has been substantially reduced from the original design. The ISA continues to manage the Area as a common heritage, collecting and distributing revenues from sponsoring state fees and from future mining operations, and the Enterprise retains its legal existence as the operational arm of the ISA. But the practical significance of the common heritage provisions has been limited by the slow development of deep-sea mining technology and the absence to date of commercial-scale mining operations in the Area.

8.2 The Deep-Sea Mining Regulatory Framework: The Mining Code

The ISA has developed a comprehensive regulatory framework for deep-sea mining activities in the Area, known informally as the Mining Code. The Mining Code comprises a set of regulations covering the prospecting, exploration, and exploitation of polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts, which are the three main categories of mineral deposits currently targeted by commercial deep-sea mining interests.

The exploration regulations for polymetallic nodules were adopted in 2000, followed by exploration regulations for polymetallic sulphides in 2010 and for cobalt-rich crusts in 2012. The ISA has issued forty-five exploration contracts to date, covering areas of the Pacific, Atlantic, and Indian Oceans, including areas of the Indian Ocean that are relatively close to the Bay of Bengal. The exploitation regulations, which would govern the transition from exploration to commercial mining, have been the subject of extended negotiations within the ISA for many years, with the initial deadline for their adoption having passed without agreement.

The exploitation regulations are the most contested element of the Mining Code because they directly determine the terms on which commercial mining operations in the Area will be conducted, including the royalty rates to be paid to the ISA, the environmental standards to be

met, the rights of workers, and the distribution of benefits. The negotiations have been complicated by the demands of the mining industry for a sufficiently permissive regulatory framework to attract investment, the demands of environmentally concerned states and NGOs for sufficiently stringent environmental standards to protect deep-sea ecosystems, and the demands of developing states for sufficiently redistributive financial terms to fulfil the common heritage mandate.

The regulatory vacuum that has persisted in relation to exploitation has been highlighted by the decision of Nauru in 2021 to trigger the two-year rule under UNCLOS Annex III Article 16, which requires the ISA to complete the adoption of the exploitation regulations within two years of a sponsoring state's notification that its sponsored contractor is ready to apply for an exploitation licence. This trigger, which set a deadline of July 2023 for the adoption of exploitation regulations, created enormous pressure within the ISA to reach agreement on the outstanding regulatory issues. When the July 2023 deadline passed without the adoption of regulations, a controversy arose about the legal consequences of this failure and about the conditions under which applications for exploitation licences could be considered. The ISA continues to work on the exploitation regulations, and their adoption remains a matter of urgent international concern.

8.3 Environmental Governance of Deep-Sea Mining: The Precautionary Approach

The environmental governance of deep-sea mining is one of the most contentious issues in the law of the sea, because the deep-sea environment is one of the least understood, most ecologically unique, and most potentially vulnerable environments on the planet. Deep-sea ecosystems, including polymetallic nodule fields, hydrothermal vent communities, and cold-water coral ecosystems, support extraordinary biological diversity, including a very high proportion of species endemic to those specific environments and found nowhere else on earth. Many of these species have evolved over millions of years in the extreme stability of the deep-sea environment, and they may be extremely sensitive to the disturbance that would be caused by commercial mining operations.

The scientific community has raised serious concerns about the environmental impacts of deep-sea mining, including the physical destruction of benthic habitats by mining equipment, the generation of sediment plumes that could smother benthic communities over large areas, and the noise and light pollution from mining operations. Some scientists have argued that these impacts could be so severe and so long-lasting, given the slow recovery rates of deep-sea ecosystems, that the precautionary principle requires a moratorium on commercial deep-sea mining until sufficient scientific knowledge is available to assess and manage the risks.

The application of the precautionary principle to deep-sea mining in the Area has been confirmed by the 2011 advisory opinion of the Seabed Disputes Chamber of ITLOS, which stated that the sponsoring state and the ISA have a due diligence obligation to apply a precautionary approach as a general principle of law. This means that the absence of scientific certainty cannot be used as a reason to postpone cost-effective measures to prevent environmental degradation, and that the burden of proof should be on those proposing mining activities to demonstrate that they can be conducted without causing serious harm to the marine environment.

The 2024 ITLOS and 2025 ICJ advisory opinions have reinforced the precautionary framework for environmental governance of activities in areas beyond national jurisdiction, confirming that states have a due diligence obligation to prevent, reduce, and control marine pollution from all sources, including from deep-sea mining operations. For the ISA, this jurisprudence strengthens the case for stringent environmental standards in the exploitation regulations and for an effective environmental monitoring and enforcement regime.

8.4 Bangladesh's Interests in Deep Seabed Governance

Bangladesh does not currently have any exploration licences in the Area and does not have the technological or financial capacity to engage in deep-sea mining activities in the foreseeable future. However, Bangladesh has significant interests in the governance of deep-sea mining that extend beyond its immediate capacity to participate in mining operations.

First, as a party to UNCLOS, Bangladesh is a member of the International Seabed Authority through the Assembly of the ISA, which is the supreme decision-making body of the organisation. Bangladesh's participation in the Assembly gives it a voice, however limited, in the governance decisions of the ISA, including the adoption of the Mining Code's exploitation regulations and the distribution of benefits from the common heritage of mankind. Bangladesh should engage actively in the ISA Assembly, advocating for a regulatory framework that fulfils the common heritage mandate, ensures a fair distribution of benefits to developing states, and maintains the highest environmental standards.

Second, Bangladesh has an interest in the environmental governance of deep-sea mining in the Indian Ocean, since the deep-sea ecosystems of the central and southern Indian Ocean are connected to the Bay of Bengal through ocean circulation and the movements of deep-sea organisms. Environmental damage from mining operations in Indian Ocean nodule fields could potentially affect the marine environment of the Bay of Bengal, including the productivity of fisheries that Bangladesh depends on. Bangladesh should therefore advocate for stringent environmental standards and effective monitoring requirements in the ISA's exploitation regulations.

Third, the revenues from deep-sea mining operations in the Area, when commercial mining eventually commences, will be distributed through the ISA's financial mechanism for the benefit of all mankind, with particular consideration for developing states. Bangladesh is entitled to a share of these revenues as a party to UNCLOS, and it should ensure that its interests in the distribution of revenues are reflected in the governance decisions of the ISA.

Fourth, Bangladesh should explore the possibility of sponsoring or co-sponsoring an exploration licence in the Area, in partnership with a technologically capable state or company, as a means of building its own capacity in deep-sea science and technology while participating directly in the economic potential of the Area. Several developing states have taken this approach, using sponsorship of deep-sea exploration activities as a vehicle for technology transfer and capacity building. Bangladesh's geographic position, with its EEZ in the Bay of Bengal and its interest in the Indian Ocean region, makes this a potentially attractive strategy.

The legal framework for Bangladesh to sponsor deep-sea mining activities in the Area currently lacks a domestic implementing instrument. UNCLOS requires sponsoring states to ensure that their sponsored contractors comply with the Mining Code and with the conditions of their exploration contracts, and this requires domestic legislation establishing the regulatory authority to oversee sponsored activities. The development of such legislation, in the context of the broader maritime law reform agenda advocated in this treatise, would position Bangladesh to engage in a more active and beneficial relationship with the ISA and the deep-sea mining governance system.

CHAPTER NINE: HIGH SEAS FISHERIES, IUU FISHING, AND BANGLADESH'S EXTENDED INTERESTS

9.1 The Governance of High Seas Fisheries: An Overview

The governance of fisheries in areas beyond national jurisdiction is one of the most challenging and most politically contentious dimensions of ocean law and governance. High seas fish stocks, including straddling stocks that move between EEZs and the high seas and highly migratory species such as tuna and billfish that migrate through vast ocean areas, are exploited by the distant-water fishing fleets of a relatively small number of states, primarily China, Japan, South Korea, Taiwan, and a few others, with less significant participation by states from Europe, the Americas, and elsewhere. The governance of these fisheries is the responsibility of a network of regional fisheries management organisations (RFMOs), which are intergovernmental bodies established by treaty to manage specific stocks or groups of stocks in defined geographic areas.

The RFMO system has been criticised as inadequate to the conservation challenges of high seas fisheries. The RFMOs are membership organisations, whose conservation and management measures bind only their members; states that are not members of an RFMO may fish the stocks managed by that organisation without any regulatory obligation. This creates an incentive for free-riding: states can benefit from the conservation measures adopted by RFMO members, which prevent the depletion of the target stocks, while contributing nothing to the costs of conservation. The problem of non-member fishing has been recognised as a significant threat to the effectiveness of RFMO management for many years, and a range of measures, including port state control, market access restrictions, and catch documentation schemes, have been developed to address it.

The 1995 Fish Stocks Agreement, which Bangladesh has not ratified, provides the primary international legal framework for the conservation and management of straddling and highly migratory fish stocks in the high seas and their relation to EEZ management. The Agreement strengthens the obligations of states in relation to straddling and highly migratory stocks, requiring them to cooperate in their conservation and management, to apply the precautionary approach, to adopt an ecosystem approach, and to comply with the conservation and management measures of relevant RFMOs. Bangladesh's failure to ratify this Agreement is a significant gap in its international fisheries law engagement, and ratification should be pursued as a matter of priority.

9.2 The Bay of Bengal's Straddling Stocks and Bangladesh's Interests

The Bay of Bengal supports significant populations of straddling and highly migratory fish species that are of direct economic importance to Bangladesh's fisheries sector. Indian mackerel, hilsa, Bombay duck, and various species of tuna and billfish are among the commercially important species that migrate between Bangladesh's EEZ and the high seas of the Bay of Bengal and the broader Indian Ocean. The conservation and management of these stocks requires cooperation between Bangladesh and the other coastal states of the Bay of Bengal, as well as engagement with the distant-water fishing states that target these stocks in the high seas beyond the national EEZs.

The Bay of Bengal Large Marine Ecosystem (BOBLME) programme, a regional initiative supported by the FAO and the Global Environment Facility, has conducted important scientific work on the ecology and fisheries of the Bay of Bengal, including assessments of the status of key commercial fish stocks and the identification of the ecosystem processes that support them. The BOBLME science base provides a foundation for evidence-based fisheries governance in the region, and Bangladesh has participated in the programme and contributed to its scientific work.

However, the governance framework for Bay of Bengal fisheries remains inadequate. There is no RFMO covering the Bay of Bengal as a whole, and the fisheries management arrangements that exist are primarily bilateral or informal, without the comprehensive legal framework and enforcement mechanisms that effective conservation requires. The Bay of Bengal Programme Organisation (BOBP-IGO), which has a mandate covering fisheries development and management in the region, lacks the authority and resources of a fully-fledged RFMO and has focused primarily on small-scale coastal fisheries rather than on the high seas fisheries that are the primary governance challenge.

Bangladesh has a strong interest in the establishment of a more effective governance framework for Bay of Bengal fisheries, including potentially the establishment of an RFMO for the region. Such an organisation would provide the legal framework for binding conservation measures applicable to all member states, including distant-water fishing states that currently target Bay of Bengal stocks on the high seas without any conservation obligation. It would provide a forum for the scientific assessment of stock status and the adoption of management measures based on that assessment. And it would provide mechanisms for monitoring and enforcement of conservation measures, including port state controls and catch documentation schemes.

9.3 Illegal, Unreported, and Unregulated Fishing: The Persistent Governance Challenge

Illegal, unreported, and unregulated (IUU) fishing is one of the most serious threats to the sustainability of marine fisheries globally, and it is a particularly acute problem in the Bay of Bengal and Bangladesh's EEZ. IUU fishing encompasses a range of activities, including fishing by vessels flying flags of convenience or operating without valid licences, fishing in excess of allocated quotas or in prohibited areas, and fishing using prohibited gear types or techniques. The global cost of IUU fishing is estimated at billions of dollars annually in lost fishing revenue and resource depletion, and its human costs include the undermining of the livelihoods of legitimate

small-scale fishers and the destruction of the fish populations on which coastal communities depend.

In Bangladesh's EEZ, IUU fishing is conducted by both Bangladeshi and foreign vessels. Bangladeshi IUU fishing includes unlicensed operations, the use of prohibited gear including fine-mesh nets that catch juvenile fish, and fishing during closed seasons. Foreign IUU fishing in Bangladesh's EEZ is conducted primarily by vessels from India, Myanmar, and Southeast Asian countries, which regularly intrude into Bangladeshi waters in violation of the EEZ boundary and Bangladesh's fisheries regulations.

The legal framework for combating IUU fishing in Bangladesh's EEZ is inadequate in several respects. The Marine Fisheries Ordinance of 1983 provides the primary legislative basis for fisheries law enforcement, but its provisions on boarding, inspection, arrest, and penalty are outdated and fail to reflect the developments in international fisheries law since the adoption of the FAO Code of Conduct for Responsible Fisheries in 1995 and the International Plan of Action on IUU Fishing in 2001. The penalties for IUU fishing under Bangladeshi law are generally too low to deter commercial-scale violations, and the administrative capacity for monitoring and enforcement is limited.

The BBNJ Agreement's provisions on environmental impact assessment and area-based management are relevant to IUU fishing to the extent that they establish governance frameworks that can apply to activities in areas beyond national jurisdiction adjacent to Bangladesh's EEZ. Marine protected areas established under the BBNJ Agreement in critical high seas habitats of the Bay of Bengal could serve as important ecological buffers for Bangladesh's EEZ fisheries, since they would protect spawning areas, migration routes, and juvenile habitats that support the fish populations in Bangladesh's adjacent waters. The effective enforcement of area-based management measures in these high seas areas would require cooperation between Bangladesh and other BBNJ Agreement parties, including through information sharing, joint monitoring, and coordinated enforcement activities.

9.4 Port State Jurisdiction and the Agreement on Port State Measures

The Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA), which entered into force in 2016, is a global treaty specifically designed to combat IUU fishing by preventing IUU-caught fish from entering the market through port facilities of parties to the Agreement. Bangladesh is not a party to the PSMA, a significant gap in its engagement with international fisheries governance instruments.

Port state measures are recognised as one of the most cost-effective tools for combating IUU fishing, because they target the economic incentive for IUU fishing by blocking market access for IUU-caught products. By requiring vessels wishing to use their ports to demonstrate that they are not carrying IUU-caught fish, port states can deny these products access to international markets and thereby reduce the economic viability of IUU fishing operations. The PSMA requires parties to implement a comprehensive port inspection system, maintain records of inspections and denials of port access, and share information with other parties and with relevant international organisations.

Bangladesh's ratification of the PSMA would significantly strengthen its fisheries governance framework and its ability to combat IUU fishing in the Bay of Bengal region. The Chittagong port is a major hub for the Bay of Bengal fisheries trade, and its effective governance under the PSMA framework would contribute to the broader regional effort to combat IUU fishing. The domestic legislative and institutional reforms required to implement the PSMA, including the designation of inspection authorities, the development of inspection procedures, and the establishment of information-sharing systems, would also strengthen the overall effectiveness of Bangladesh's fisheries management system.

Bangladesh's accession to the 1995 Fish Stocks Agreement should also be pursued. This instrument provides the most comprehensive international legal framework for the conservation and management of straddling and highly migratory fish stocks, and Bangladesh's accession would strengthen its legal position in relation to both the distant-water fishing states that target Bay of Bengal stocks and the other coastal states of the region with whom Bangladesh shares these stocks.

CHAPTER TEN: REFORM AGENDA: DOMESTICATION, INSTITUTIONAL CAPACITY, AND STRATEGIC ENGAGEMENT

10.1 The Architecture of Comprehensive Reform

The analysis in the preceding nine chapters of this Part has identified a comprehensive agenda for legal reform in Bangladesh in relation to the governance of areas beyond national jurisdiction. This final chapter synthesises these reform needs into a coherent architecture, addressing the legislative, institutional, capacity-building, and diplomatic dimensions of the reform agenda.

The need for comprehensive reform in Bangladesh's engagement with the governance of areas beyond national jurisdiction is driven by a convergence of factors: the entry into force of the BBNJ Agreement in January 2026, which creates new rights and obligations for all parties; the growing importance of deep-sea mining governance and Bangladesh's potential interests in the Area; the persistent challenge of IUU fishing and the inadequacy of Bangladesh's current fisheries governance framework; the scientific recognition of the ecological connections between high seas ecosystems and Bangladesh's coastal and EEZ fisheries; and the political opportunities created by Bangladesh's active engagement with international maritime governance as a responsible, principled, and constructive participant.

The reform architecture proposed in this Part is built on five pillars: first, legislative reform to implement Bangladesh's international obligations and to establish a comprehensive domestic legal framework for the governance of its activities in areas beyond national jurisdiction; second, institutional reform to create the administrative capacity needed to implement the legislative framework and to engage effectively with international governance institutions; third, capacity-building to develop the scientific, technical, and legal expertise needed to participate meaningfully in the governance of areas beyond national jurisdiction; fourth, diplomatic

engagement to advocate Bangladesh's interests in the governance of the global ocean commons; and fifth, regional cooperation to build common governance arrangements with Bangladesh's BIMSTEC partners for the shared management of Bay of Bengal marine resources.

10.2 Legislative Reform: The Proposed Maritime Governance Consolidation Act

The primary legislative reform recommended in this Part is the enactment of a comprehensive Maritime Governance Consolidation Act, which would consolidate and update Bangladesh's domestic legal framework for the governance of all maritime areas, including areas beyond national jurisdiction. This Act would serve several distinct functions.

First, it would implement Bangladesh's obligations under the BBNJ Agreement, establishing the legal authority for Bangladesh to regulate the activities of its nationals and flag vessels in areas beyond national jurisdiction in accordance with the Agreement's requirements. Specifically, it would establish the domestic EIA framework for activities in areas beyond national jurisdiction, the benefit-sharing framework for the commercial exploitation of marine genetic resources, and the compliance framework for area-based management tool decisions.

Second, the Act would implement the 1995 Fish Stocks Agreement, for which Bangladesh's accession is recommended, establishing the domestic legal framework for the conservation and management of straddling and highly migratory fish stocks in Bangladesh's EEZ and adjacent high seas areas. This would include provisions on the precautionary approach to fisheries management, ecosystem-based management, cooperation with other coastal states and with relevant RFMOs, and compliance with RFMO conservation and management measures.

Third, the Act would implement the Port State Measures Agreement, for which Bangladesh's accession is also recommended, establishing the port inspection system required by the Agreement, designating the competent authorities for inspection and enforcement, and providing for the denial of port access to vessels carrying IUU-caught fish.

Fourth, the Act would address the grey area problem in Bangladesh's EEZ and continental shelf boundaries, establishing the legal framework for the coordination of EEZ and continental shelf governance in the area where Bangladesh has continental shelf rights in the seabed and India has EEZ rights in the superjacent water column.

Fifth, the Act would address the governance of Bangladesh's deep seabed interests, including the legal framework for the sponsorship of deep-sea exploration activities in the Area and the regulatory authority for Bangladesh's participation in the ISA governance system.

Sixth, the Act would update the environmental governance provisions of Bangladesh's maritime law, implementing the obligations confirmed by the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion in relation to climate change and marine pollution, including the due diligence obligation to prevent, reduce, and control marine pollution from greenhouse gas emissions.

The Maritime Governance Consolidation Act should be drafted through a comprehensive consultative process involving all relevant government ministries and agencies, the legal profession, the marine scientific community, civil society organisations representing fishing communities, and international experts in maritime law and governance. The drafting process should be supported by a dedicated technical committee with appropriate legal and scientific expertise, and it should be informed by comparative analysis of the maritime governance legislation of other developing coastal states that have adopted comprehensive maritime governance frameworks.

10.3 Institutional Reform: The Maritime Governance Authority

The legislative reforms described above require a corresponding institutional infrastructure for their implementation. The current fragmentation of maritime governance authority across multiple ministries and agencies, described in earlier parts of this treatise, is a fundamental obstacle to the effective implementation of Bangladesh's maritime governance obligations and the realisation of its maritime economic opportunities. A comprehensive institutional reform is required, and the centrepiece of this reform should be the establishment of a Maritime Governance Authority.

The Maritime Governance Authority, which has been proposed in various forms by scholars and policymakers working on Bangladesh's maritime governance, would be the principal national body responsible for the coordination and implementation of Bangladesh's maritime governance framework. It would bring together under a single institutional roof the functions currently distributed across the Ministry of Fisheries and Livestock, the Ministry of Foreign Affairs, the Ministry of Environment, Forest and Climate Change, the Bangladesh Navy, the Bangladesh Coast Guard, and other bodies with maritime governance responsibilities.

The Authority's principal functions would include: the administration of licensing and permit systems for fishing, marine scientific research, and other maritime activities in Bangladesh's EEZ and continental shelf; the coordination of EIA processes for activities in Bangladesh's maritime zones and, under the BBNJ Agreement framework, for Bangladeshi activities in areas beyond national jurisdiction; the management of Bangladesh's engagement with international maritime governance institutions, including the ISA, the BBNJ Agreement institutions, the BIMSTEC maritime governance framework, and relevant RFMOs; the coordination of maritime law enforcement across the Bangladesh Navy, Coast Guard, and other enforcement bodies; and the development and implementation of Bangladesh's maritime science strategy.

The Authority should be governed by a board comprising representatives of the relevant government ministries, independent marine scientists, representatives of the fishing industry, and civil society representatives including from coastal fishing communities. Its chief executive should be a person with deep expertise in maritime law and governance, appointed through a transparent and merit-based process. The Authority should be financially autonomous, with its own budget allocated by Parliament, and it should be accountable to Parliament through an annual report and regular committee appearances.

The legal basis for the Maritime Governance Authority should be established through the Maritime Governance Consolidation Act recommended above. The Act should specify the Authority's functions, powers, governance structure, accountability mechanisms, and relationship to other government bodies. The establishment of the Authority would require a period of transition from the current fragmented governance structure, and the transition arrangements should be carefully designed to avoid disruption to existing governance functions while progressively consolidating them within the new institution.

10.4 Capacity Building: The Bangladesh Ocean Science and Governance Initiative

The effective implementation of Bangladesh's maritime governance obligations and the realisation of Bangladesh's maritime economic opportunities both require a major investment in the scientific, technical, and legal capacity of the relevant government agencies, universities, and research institutions. The existing capacity in marine science, maritime law, and ocean governance in Bangladesh, while growing, is insufficient for the demands of the current and emerging governance challenges.

The Bangladesh Ocean Science and Governance Initiative is proposed as the vehicle for a comprehensive capacity-building effort, bringing together the relevant academic institutions, government agencies, and international partners in a coordinated programme of research, training, and institutional development. The initiative should have the following principal components.

In the scientific domain, the Initiative should support the development of a national deep-sea research programme, building on the existing capacity of the Bangladesh Oceanographic Research Institute and the Institute of Marine Sciences at the University of Chittagong. The programme should include investment in research vessel capacity, including potentially through a leasing or partnership arrangement with a developed state research institution; development of expertise in deep-sea biology, biogeography, and ecology; participation in international collaborative research programmes in the Bay of Bengal and the broader Indian Ocean; and development of marine biotechnology capacity to enable Bangladesh to participate in the exploration and utilisation of marine genetic resources.

In the legal and governance domain, the Initiative should support a major programme of training for government officials in international maritime law, ocean governance, and negotiating skills. This programme should be developed in partnership with leading international institutions such as the International Maritime Law Institute in Malta, the International Tribunal for the Law of the Sea in Hamburg, and the Division for Ocean Affairs and the Law of the Sea at the United Nations. It should include training on the BBNJ Agreement and its implementing rules, the ISA's Mining Code, the 1995 Fish Stocks Agreement, and other relevant international instruments. And it should include practical negotiation training to prepare Bangladesh's officials for effective participation in international governance negotiations.

In the institutional domain, the Initiative should support the development of the Maritime Governance Authority's internal capacity through recruitment of qualified personnel, development of training programmes for existing staff, establishment of data management

systems for the monitoring of maritime activities, and development of coordination mechanisms with regional and international partners.

10.5 Diplomatic Engagement: Bangladesh's Voice in Ocean Governance

The governance of areas beyond national jurisdiction is not merely a technical legal matter; it is a deeply political process in which states with different interests, capabilities, and values compete to shape the rules and institutions through which the global ocean commons are managed. Bangladesh's effective participation in this process requires a coherent diplomatic strategy, well-prepared negotiators, and strategic alliances with like-minded states.

Bangladesh's primary diplomatic interest in ocean governance is the establishment and maintenance of a governance framework that is equitable in its distribution of benefits, effective in its conservation of marine ecosystems, and inclusive in its governance processes. These interests align broadly with those of other developing coastal states, particularly those in the Bay of Bengal and Indian Ocean regions. Bangladesh should therefore invest in building a coalition of like-minded states within the BBNJ Agreement governance system, the ISA, and other relevant international institutions, coordinating positions, sharing information, and presenting a unified voice in governance negotiations.

The BIMSTEC framework provides a natural vehicle for regional diplomatic coordination in relation to ocean governance. The BIMSTEC Agreement on Maritime Transport Cooperation, ratified in 2025, provides a model for the kind of regional legal instrument that could be developed for marine environmental governance in the Bay of Bengal. Bangladesh should advocate, through the BIMSTEC framework, for the development of a comprehensive regional ocean governance strategy that addresses fisheries management, marine protected areas, environmental impact assessment, deep-sea governance, and capacity building in an integrated and regionally coordinated manner.

Bangladesh should also invest in the development of its expertise in international maritime law and governance diplomacy, by training a cadre of specialist maritime lawyers and diplomats who can engage effectively in the complex technical negotiations of the relevant international institutions. The loss of experienced negotiators through staff turnover, the inadequate investment in training and career development for maritime governance specialists, and the fragmentation of institutional memory across multiple government agencies are all obstacles to Bangladesh's effective diplomatic engagement with ocean governance institutions. The Maritime Governance Authority proposed above should include a dedicated international engagement function, with sufficient staffing and resources to support continuous engagement with the full range of relevant institutions.

10.6 A Critical Assessment: The Limits of Legal Reform

Any honest assessment of the reform agenda proposed in this Part must acknowledge its limitations and the significant challenges that stand between the articulation of these reforms and their implementation. The history of maritime law reform in Bangladesh, as documented throughout this treatise, is a history of ambitious proposals frequently frustrated by institutional

inertia, limited financial resources, political prioritisation of more immediate concerns, and the inadequacy of the legal and governmental capacity needed to develop and implement comprehensive reform.

The reforms proposed in this Part are more ambitious, in some respects, than those proposed in earlier Parts, because the challenges addressed here, the governance of the global ocean commons, the deep seabed, and the high seas, are more remote from the immediate concerns of Bangladeshi policymakers and therefore more likely to be deprioritised. It is genuinely difficult to mobilise political attention and legislative energy for the governance of areas thousands of miles from Bangladesh's coast, whose resources Bangladesh has little current capacity to exploit, when there are immediate and pressing demands for legislative attention in the fisheries, shipping, and environmental governance of Bangladesh's EEZ and coastal waters.

The response to this challenge of prioritisation is not to lower the ambition of the reform agenda but to frame it in a manner that connects the governance of areas beyond national jurisdiction to the immediate and tangible interests of Bangladeshi stakeholders. The productivity of Bangladesh's coastal and EEZ fisheries depends on the ecological health of the broader Bay of Bengal and Indian Ocean system, including the high seas. The economic opportunities of the blue economy, including the potential benefits from marine genetic resources and deep-sea minerals, depend on Bangladesh's effective engagement with the governance institutions of the BBNJ Agreement and the ISA. The climate resilience of Bangladesh's coastal communities depends in part on the effective governance of the deep ocean's carbon sequestration functions. These connections between the governance of remote ocean spaces and the immediate concerns of Bangladeshi people are real and significant, and they must be articulated clearly in any effort to build the political will for comprehensive maritime governance reform.

The role of civil society, particularly the organisations representing coastal fishing communities, marine scientists, and environmental advocates, is crucial in building this political will. Civil society can communicate the connections between ocean governance and community welfare in a language that resonates with the Bangladeshi public and with the political leadership. It can hold the government accountable for its commitments in international maritime governance forums. And it can contribute to the monitoring and enforcement of maritime governance rules through community-based surveillance and reporting mechanisms. The Maritime Governance Consolidation Act proposed above should therefore include provisions for civil society participation in the governance of Bangladesh's maritime zones and in Bangladesh's engagement with international governance institutions.

The financial dimension of the reform agenda is also a significant constraint. The establishment of the Maritime Governance Authority, the development of the Bangladesh Ocean Science and Governance Initiative, the investment in deep-sea research capacity, and the strengthening of diplomatic engagement with international ocean governance institutions all require financial resources that the Bangladeshi government's budget may struggle to provide in the current fiscal environment. The capacity-building provisions of the BBNJ Agreement provide one avenue for accessing international financial support, and Bangladesh should actively pursue this avenue. The FAO's Voluntary Guidelines for Small-Scale Fisheries, the World Bank's blue economy financing programmes, the Asian Development Bank's maritime governance initiatives, and

bilateral development assistance from major maritime powers are additional sources of financial support that Bangladesh should systematically explore.

The political economy of maritime governance reform in Bangladesh is complicated by the existence of powerful stakeholder interests that may resist certain elements of the reform agenda. The large-scale commercial fishing industry has an economic interest in resisting stronger conservation measures that would restrict its catch. The hydrocarbon industry has an interest in resisting stronger environmental standards for offshore operations. The navy and coast guard may resist institutional arrangements that they perceive as reducing their operational independence. And the various ministries with current maritime governance responsibilities may resist the consolidation of authority in a new Maritime Governance Authority that could reduce their jurisdictional scope. Managing these resistance interests through inclusive consultation, transparent process, and evidence-based advocacy is essential to the success of the reform agenda.

Despite these challenges, the reform agenda articulated in this Part is not merely aspirational; it is achievable, given appropriate political will, adequate resources, and competent implementation. Bangladesh has already demonstrated, through its successful conduct of the ITLOS and PCA arbitrations, its capacity for sophisticated international legal engagement in the maritime sphere. It has demonstrated, through its active participation in BIMSTEC and through its signature of the BBNJ Agreement, its political commitment to constructive engagement with international maritime governance. And it has demonstrated, through the 2021 amendment to the Territorial Waters and Maritime Zones Act, its capacity to modernise its maritime legislative framework. The task now is to build on these achievements, to address the remaining gaps and inadequacies in the legal and institutional framework, and to position Bangladesh as a leader, not a follower, in the governance of the global ocean commons.

10.7 Theoretical Reflections: Justice, Governance, and the Global Ocean

This Part has engaged throughout with the theoretical dimensions of ocean governance, drawing on natural law and positivist philosophy, the common heritage concept, Rawlsian justice theory, Ostromian commons governance theory, the tragedy of the commons, the critical legal studies and TWAIL perspectives, and the constructivist analysis of international legal norms. It is appropriate, in this concluding section, to reflect on what these theoretical frameworks collectively tell us about the challenge of governing the global ocean commons and about Bangladesh's place in that governance project.

The fundamental insight that emerges from the diverse theoretical perspectives examined in this Part is that the governance of the global ocean commons is not merely a technical legal problem but a political problem about the fair distribution of power, opportunity, and resources among states at vastly different levels of development. The formal legal equality of states in international law, enshrined in the UN Charter's principle of sovereign equality, coexists with a profound inequality in the capacity of states to participate meaningfully in the governance of shared resources and to benefit from that governance. The BBNJ Agreement's benefit-sharing provisions, capacity-building obligations, and inclusive governance processes represent an attempt to address this inequality, but whether they will succeed depends on the political will of

the technologically advanced states to fulfil their obligations, on the institutional effectiveness of the Agreement's governance bodies, and on the capacity and determination of developing states to engage actively and strategically in the governance process.

Bangladesh's theoretical framework for approaching the governance of the global ocean commons should be grounded in the principle of global justice applied to ocean resources, drawing on the Rawlsian insight that equitable governance requires explicit attention to the position of the least advantaged participants. It should embrace the Ostromian insight that effective governance of complex commons requires polycentric institutional arrangements, participatory processes, and science-based decision-making rather than either top-down regulation or unregulated freedom. It should engage critically with the distribution of power within international governance institutions, advocating for structural reforms that give developing states a meaningful voice in governance decisions that affect them. And it should approach the development of its own domestic legal and institutional framework not merely as an exercise in compliance with international obligations but as an expression of its commitment to the responsible and equitable governance of the ocean resources on which its people depend.

The philosophical tradition of the law of the sea, from Grotius and Selden through Bynkershoek and Vattel to the architects of UNCLOS and the BBNJ Agreement, teaches that the governance of the ocean has always been a negotiation between competing claims and competing visions of the good. The contemporary negotiation involves new actors, new resources, and new scientific understandings, but it remains fundamentally a negotiation about justice: who has the right to use the ocean, on what terms, and for whose benefit. Bangladesh's engagement with this negotiation, informed by the theoretical frameworks explored in this Part and grounded in the concrete legal and institutional reforms proposed here, is both an obligation and an opportunity. The ocean is Bangladesh's destiny. The governance of the global ocean commons is Bangladesh's responsibility. And the reforms proposed in this Part are the path by which Bangladesh can fulfil that responsibility.

CONCLUDING COMMENTARY ON PART SIXTEEN

Part Sixteen has undertaken a systematic and comprehensive examination of the law governing areas beyond national jurisdiction and Bangladesh's engagement with that body of law. It has traced the historical and philosophical development of the concept of the high seas from the Grotian tradition to the BBNJ Agreement, analysed the legal architecture and institutional framework of the BBNJ Agreement in detail, examined the regime of the Area under UNCLOS and the governance of deep-sea mining, assessed the challenges of high seas fisheries governance and IUU fishing, and developed a comprehensive reform agenda for Bangladesh's domestic legal and institutional framework and its strategic diplomatic engagement with international ocean governance institutions.

The central argument of this Part is that Bangladesh cannot afford to treat the governance of areas beyond national jurisdiction as a peripheral concern. The ecological health of the Bay of Bengal, the economic potential of Bangladesh's blue economy, the livelihoods of Bangladesh's

coastal fishing communities, and Bangladesh's credibility as a responsible maritime state all depend on effective engagement with the governance of the global ocean commons. The BBNJ Agreement, which entered into force on 17 January 2026, represents the most significant opportunity in a generation for developing states like Bangladesh to shape the governance of the high seas in a manner that serves their interests and reflects their values.

The reforms proposed in this Part, including the enactment of a Maritime Governance Consolidation Act, the establishment of a Maritime Governance Authority, the development of a Bangladesh Ocean Science and Governance Initiative, the accession to the BBNJ Agreement, the 1995 Fish Stocks Agreement, and the Port State Measures Agreement, and the development of a coherent diplomatic strategy for ocean governance, are ambitious but achievable. They build on the solid foundation of Bangladesh's successful engagement with international maritime boundary law and on the growing recognition within Bangladesh of the strategic importance of the maritime domain.

Part Seventeen of this treatise will proceed to an examination of maritime security, naval governance, and the legal framework for counter-piracy and maritime law enforcement in the Bay of Bengal, another dimension of the law of the sea in which Bangladesh's legal framework is inadequate and in which comprehensive reform is urgently needed. The themes of this Part, including the challenge of governing a shared maritime space for the benefit of all its users, the tension between freedom and governance in the law of the sea, and the imperative of building Bangladesh's institutional capacity for effective maritime governance, will continue to animate the analysis in that Part and throughout the remaining Parts of this treatise.

This Part constitutes the sixteenth of twenty parts of the comprehensive treatise "Commentaries And Necessary Reforms in The Law of The Sea: Bangladesh Perspective." The analysis in this Part is current to April 2026 and reflects the legal situation following the entry into force of the BBNJ Agreement on 17 January 2026, the ITLOS Advisory Opinion on climate change of May 2024, the ICJ Advisory Opinion on climate change obligations of 2025, and the entry into force of the BIMSTEC Agreement on Maritime Transport Cooperation in 2025.

PART SEVENTEEN

MARINE SPATIAL PLANNING, INTEGRATED OCEAN GOVERNANCE, DIGITAL MARITIME TRANSFORMATION, AND THE COMPREHENSIVE INSTITUTIONAL ARCHITECTURE FOR BANGLADESH'S MARITIME LEGAL RENAISSANCE

A COMMENTARY ON GOVERNANCE THEORY, SPATIAL JURISPRUDENCE, TECHNOLOGICAL DISRUPTION, INSTITUTIONAL DESIGN, AND THE POLITICAL PHILOSOPHY OF OCEAN ADMINISTRATION IN THE TWENTY-FIRST CENTURY BANGLADESH CONTEXT

PREFACE TO PART SEVENTEEN

By the time a student of the law of the sea reaches the seventeenth part of this treatise, they carry with them the accumulated weight of a body of knowledge that spans millennia of human engagement with the ocean. They carry the philosophical tensions inaugurated by Grotius and Selden, the institutional architecture erected at Montego Bay, the forensic details of Bangladesh's landmark arbitral victories, the ecological imperatives articulated in the 2024 ITLOS Advisory Opinion, and the political and social contestations of who governs the sea and for whom. Part Seventeen does not abandon any of this. It gathers it, synthesises it, and projects it forward into the most demanding terrain that any maritime legal reformer must eventually confront: the design of a comprehensive institutional and governance architecture that is capable of bringing order, equity, sustainability, and effectiveness to the management of an ocean territory of 118,813 square kilometres, in a country of extraordinary complexity, extraordinary vulnerability, and extraordinary potential.

The challenge of this Part is not to describe what Bangladesh has done, though the account of achievements must be honest and fair. It is to describe what Bangladesh must do, and why it must do it now, and with what conceptual and theoretical tools it must approach the task. The argument of this Part is that the current moment in the international law of the sea represents a convergence of pressures and opportunities that makes comprehensive institutional reform not merely desirable but existentially necessary for Bangladesh. The pressures include the demands of the 2024 ITLOS Advisory Opinion on climate obligations, the entry into force of the BBNJ Agreement, the proliferation of digital maritime technologies that existing legal frameworks are not designed to regulate, the worsening ecological crisis in the Bay of Bengal, the inadequacy of the current fragmented governance architecture, and the growing expectations of coastal communities that the blue economy should produce tangible benefits for ordinary people and not merely for elites and corporations. The opportunities include the significant international interest in capacity building for developing coastal states, the availability of regional frameworks like BIMSTEC for cooperative governance, the existence of a dynamic and growing academic and legal community in Bangladesh with expertise in maritime law, and the political moment created by the political transition of 2024 in which new governance frameworks can be proposed and debated with a degree of openness that was previously more limited.

Marine spatial planning, the first major theme of this Part, is the practice of allocating the uses of marine space across sectors and jurisdictions in accordance with ecological, economic, social, and cultural objectives. It is simultaneously a governance tool, a legal framework, a political process, and a spatial discipline. It is one of the most important innovations in ocean governance of the late twentieth and early twenty-first centuries, and it is an area where Bangladesh has made almost no progress despite the urgent need. The second major theme, integrated ocean governance, addresses the institutional problem of coordination across sectors and across scales of governance, from the local community to the international level. The third major theme, digital maritime transformation, addresses the extraordinary range of legal questions raised by the deployment of artificial intelligence, autonomous vessels, satellite monitoring, blockchain, and other technologies in maritime contexts that existing law was not designed to anticipate. The fourth major theme is the comprehensive institutional architecture for reform, including the design of a Blue Economy Authority, the reform of maritime courts and tribunals, the

development of a maritime legal education and research infrastructure, and the legislative programme required to give practical effect to all of the reforms discussed throughout this treatise.

CHAPTER ONE: MARINE SPATIAL PLANNING AS A LEGAL AND GOVERNANCE CONCEPT

1.1 The Concept of Marine Spatial Planning: Origins, Definitions, and Theoretical Dimensions

Marine spatial planning emerged as a formal governance concept in the late 1990s and early 2000s, drawing on a combination of ecological science, spatial planning theory, international ocean policy, and the practical experience of states attempting to manage the increasingly complex and conflicting uses of maritime space. The concept has roots in terrestrial land-use planning, which had developed as a governance discipline from the mid-twentieth century onward, but it also has distinctive features that reflect the particular characteristics of marine environments: their three-dimensionality, their dynamic character, their connectivity across jurisdictional boundaries, and the difficulty of establishing the kind of secure property rights that underpin terrestrial land-use regimes.

The International Maritime Organisation and UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO) have provided the most authoritative international definitions of marine spatial planning (MSP). The UNESCO-IOC guide to MSP, published in its various editions from 2009 onward and significantly updated in 2021, defines marine spatial planning as a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process. This definition is notable for several features. It emphasises the public and political character of MSP, distinguishing it from purely technocratic resource allocation. It acknowledges the temporal as well as spatial dimensions of ocean use, recognising that different activities may be allocated to the same space at different times. And it specifies multiple objectives, including ecological, economic, and social ones, creating an integrated framework rather than a single-purpose instrument.

From a legal theory perspective, MSP occupies a fascinating and somewhat ambiguous position. It is not a form of sovereignty or of property rights in the conventional sense; it does not transfer ownership of the ocean to public or private actors. It is better understood as a form of regulatory planning, analogous to zoning and land-use regulation in terrestrial contexts, though the analogy is imperfect for reasons that this commentary will explore. The legal character of MSP decisions, their binding force on different categories of actors, their relationship to UNCLOS rights and obligations, and their enforceability through domestic and international legal mechanisms are all questions that have received significant academic attention in recent years and that have important practical implications for the design of an MSP framework for Bangladesh.

The jurisprudential tradition most relevant to MSP is the administrative law tradition, broadly understood, which addresses the procedures and substantive standards by which public authorities exercise regulatory powers. MSP involves the allocation of rights to use marine space among competing users, the imposition of restrictions on uses that are deemed incompatible with MSP objectives, and the creation of designated areas where specific activities are permitted, restricted, or prohibited. Each of these regulatory actions has legal implications for the rights of affected parties, and the procedures by which MSP decisions are made must satisfy the requirements of due process, transparency, participation, and reasoned justification that characterise legitimate administrative action in a constitutional democracy.

The critical legal geography perspective, which has been applied to MSP by scholars including Phang and others writing in the late 2010s and early 2020s, points to the power dimensions of spatial planning decisions in marine environments. Who decides which uses of marine space are legitimate and which are to be restricted? Whose knowledge counts in MSP processes, and whose knowledge is marginalised? How are the spatial claims of indigenous and traditional maritime communities accommodated within a planning framework that tends to privilege the categories and criteria of official and scientific knowledge? These questions are directly relevant to Bangladesh, where the spatial claims of millions of small-scale fishers and coastal communities have been historically invisible in formal governance processes.

The feminist political geography tradition adds a further dimension: the gendered character of spatial use in coastal environments, where women's patterns of resource use, including intertidal gleaning, mangrove harvesting, and small-scale aquaculture, occupy spaces and use resources that are rarely acknowledged in formal planning frameworks. A gender-sensitive MSP framework for Bangladesh would need to explicitly map and protect these gendered patterns of spatial use, rather than assuming that the dominant patterns of male offshore fishing and industrial resource exploitation represent the full range of legitimate maritime spatial claims.

1.2 The International Legal Framework for Marine Spatial Planning

UNCLOS does not mention marine spatial planning by name, but it contains provisions that are directly relevant to the legal framework within which MSP operates. Article 56, which establishes the coastal state's sovereign rights and jurisdiction in the EEZ, provides the legal basis for the coastal state's authority to regulate the uses of its EEZ in accordance with UNCLOS. Article 194, which requires states to take measures to prevent, reduce, and control pollution of the marine environment, provides the legal basis for use restrictions in sensitive marine areas. Articles 192 and 194 together, as interpreted in the 2024 ITLOS Advisory Opinion, create an expanded framework of marine environmental protection obligations that MSP must serve. Article 211, on pollution from vessels, and Articles 207 and 212, on pollution from land-based sources and from or through the atmosphere, provide additional bases for use regulation in maritime areas.

The BBNJ Agreement, adopted in 2023, establishes provisions for area-based management tools and marine protected areas in areas beyond national jurisdiction, setting a precedent and a standard for spatial governance that should influence the design of MSP frameworks in national maritime zones. The Agreement's provisions on cumulative impact assessment, on prior consent

and engagement of indigenous and local communities, and on the relationship between area-based management tools and existing sectoral regulatory frameworks are all relevant to the design of a domestic MSP system for Bangladesh.

The European Union has developed the most advanced regional legal framework for MSP through its Maritime Spatial Planning Directive of 2014, which required EU member states to establish maritime spatial plans by 2021. The Directive sets out minimum requirements for MSP, including ecosystem-based approach, cross-border cooperation, stakeholder participation, and consideration of long-term climate change adaptation. The EU experience, which has produced a rich body of national and comparative legal analysis, provides valuable lessons for the design of MSP frameworks in developing coastal states, though the institutional and financial context of EU member states is significantly different from Bangladesh's context.

The Pacific Islands Regional Ocean Policy, adopted by the Pacific Islands Forum in 2002 and supplemented by the Framework for a Pacific Oceanscape in 2010, provides an example of regional MSP governance that is more relevant to the developing country context. The Pacific experience demonstrates both the potential and the limitations of MSP in resource-constrained governance environments, and it illustrates the importance of grounding MSP in local knowledge and community governance rather than imposing externally designed planning frameworks.

1.3 Marine Spatial Planning and the Ecosystem-Based Approach: Scientific Foundations and Legal Implications

The ecosystem-based approach (EBA) to ocean management, which is closely associated with MSP, holds that the management of human activities in marine environments must take account of the entire ecosystem, including the physical, chemical, biological, and human components, rather than managing individual species or sectors in isolation. This approach, which has been endorsed in numerous international instruments including the Convention on Biological Diversity, the UN Fish Stocks Agreement, and the BBNJ Agreement, reflects the growing scientific understanding of marine ecological complexity and connectivity, and the recognition that single-species or single-sector management approaches systematically fail to protect the ecological processes on which human uses of the ocean ultimately depend.

From a legal perspective, the ecosystem-based approach has significant implications. It challenges the sectoral character of most existing maritime law, which governs fisheries, navigation, hydrocarbons, pollution, and other activities through separate instruments with separate regulatory authorities and separate institutional frameworks. It requires the integration of ecological science into legal decision-making in ways that go beyond traditional approaches to environmental impact assessment. And it raises questions about the legal status of ecological processes and services, specifically whether the maintenance of ecosystem functions can be treated as a legal objective that constrains the exercise of other legal rights.

The marine ecosystem services concept, which was developed by ecologists and environmental economists in the early 2000s and has since influenced international environmental law and policy significantly, provides a framework for quantifying the values of marine ecological processes in terms that are commensurable with economic assessments of resource development

activities. The Millennium Ecosystem Assessment of 2005 identified provisioning services (such as fish and genetic resources), regulating services (such as carbon sequestration and coastal protection), cultural services (such as aesthetic and spiritual values), and supporting services (such as nutrient cycling and habitat provision) as the four main categories of ecosystem services. This framework has been applied to the Bay of Bengal by a number of researchers, and the results demonstrate the enormous ecological and economic value of the Bay's marine ecosystems, including values that are not captured in conventional economic assessments of fisheries, hydrocarbons, and shipping.

For Bangladesh's legal framework, the ecosystem services concept provides a basis for arguing that the protection of marine ecosystem services is a legitimate and legally mandated objective of maritime governance, not merely a constraint on economic development. This argument has implications for the design of licensing and permit systems, for the standards applicable to environmental impact assessment, for the legal treatment of cumulative impacts, and for the relationship between the interests of current and future generations in the use of marine resources. The intergenerational equity principle, which appears in various forms in international environmental law including the Rio Declaration of 1992 and the BBNJ Agreement, provides additional jurisprudential support for the proposition that current resource exploitation must be constrained by the obligation to preserve ecological capacity for future generations.

1.4 Marine Protected Areas: Law, Theory, and Bangladesh's Situation

Marine protected areas (MPAs) are among the most important instruments of MSP and marine conservation. They encompass a wide range of designations, from fully protected marine reserves in which extractive activities are prohibited, to partially protected areas in which some activities are restricted while others are permitted, to large-scale marine parks in which a combination of zoning and management measures applies. The international community has committed to the 30x30 target, endorsed at the Kunming-Montreal Global Biodiversity Framework in December 2022, which aims to protect at least thirty percent of the world's oceans and lands by 2030. This is an extraordinarily ambitious target, particularly for the ocean, where protected area coverage as of the time of writing stands at approximately eight to nine percent of the global ocean area.

UNCLOS provides the legal basis for MPAs in national maritime zones through the general environmental protection provisions of Part XII, supplemented by the provisions on the management of living resources in Articles 61 to 65. The Convention does not specifically authorise MPAs as such, but the coastal state's jurisdiction over marine scientific research, the protection and preservation of the marine environment, and the management of living resources, taken together, provides an adequate legal basis for MPA designation and management. The BBNJ Agreement explicitly establishes a framework for MPAs in areas beyond national jurisdiction, providing procedural standards and substantive criteria that should inform the design of MPA frameworks in national zones as well.

Bangladesh's domestic legal framework for MPAs is extremely weak. There is no specific MPA legislation, and the existing legal basis for MPA designation is ambiguous and inadequate. The Chittagong coastal area and the Sundarbans marine area have received some form of protected

status under domestic environmental legislation, but the management frameworks for these areas are inadequate, the enforcement of protective regulations is minimal, and there is no systematic monitoring of ecological status. The Bay of Bengal contains a number of areas of high ecological importance, including spawning grounds for commercially important fish species, coral reef habitats in the southeastern coastal area near St. Martin's Island, and the mangrove-estuarine ecosystem of the Sundarbans, all of which deserve strong protected area management.

The designation of St. Martin's Island and its surrounding marine area as a Marine Protected Area has been proposed and debated for many years. St. Martin's Island is Bangladesh's only true coral island, situated approximately 9 kilometres south of the tip of the Cox's Bazar-Teknaf peninsula, and it supports a diverse coral reef ecosystem that is unique in Bangladesh's maritime territory and of high national and regional ecological significance. The island is subject to intense and growing tourism pressure, coastal erosion exacerbated by sea-level rise and wave action, and environmental degradation from unsustainable fishing and waste disposal. A credible and effectively managed MPA designation for St. Martin's Island and its adjacent marine environment would be both a conservation imperative and a demonstration of Bangladesh's commitment to its obligations under the Convention on Biological Diversity and the 30x30 target.

The jurisprudential basis for MPA designation in Bangladesh's EEZ must be clearly established in domestic legislation. The current legal framework, which rests primarily on general environmental protection provisions in the Territorial Waters and Maritime Zones Act as amended in 2021 and the Environment Conservation Act of 1995, does not provide the specific statutory authority needed for a robust MPA management framework. New legislation specifically authorising MPA designation, establishing the criteria and procedures for designation, specifying the management standards applicable within designated areas, and creating enforcement mechanisms and remedies for violations is urgently needed. The design of this legislation should draw on international best practice, including the IUCN Protected Area Management Categories framework, the EU Habitats and Birds Directives, and the provisions of the BBNJ Agreement.

1.5 Marine Spatial Planning and the Rights of Small-Scale Fishers: A Social Justice Analysis

The intersection of MSP with the rights of small-scale fishers is one of the most politically sensitive and legally complex dimensions of ocean governance reform. In Bangladesh, an estimated 1.5 million people are directly employed in marine capture fisheries, of whom the vast majority are small-scale or artisanal fishers who operate in near-shore coastal waters using traditional vessels and gear. These fishers are among the poorest and most vulnerable members of Bangladeshi society, and they depend on access to coastal marine resources for their subsistence and livelihoods. Any MSP framework that restricts access to coastal fishing areas, designates marine protected areas in traditional fishing grounds, or allocates coastal space to industrial aquaculture, port development, or offshore energy facilities, will have direct and potentially severe impacts on the livelihoods and rights of this large and vulnerable population.

The international legal framework for the rights of small-scale fishers has been significantly developed in recent years. The FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted in 2015, provide comprehensive guidance on the rights-based approach to small-scale fisheries governance, including the tenure rights of small-scale fishers in coastal fishing grounds, the obligation to consult and obtain the free, prior, and informed consent of fishing communities before implementing measures that affect their access to resources, and the integration of small-scale fisheries interests into MSP processes. The 2024 FAO Voluntary Guidelines on Tenure and Fisheries, which updated and expanded the 2015 guidelines, further strengthen the framework for protecting fishing community rights in the context of changing governance arrangements including MSP.

The human rights dimensions of MSP are increasingly recognised in the academic literature and in international policy discourse. The right to an adequate standard of living, the right to food, the right to work, and the right to participate in decisions affecting one's livelihood, all guaranteed under international human rights law including the International Covenant on Economic, Social and Cultural Rights to which Bangladesh is a party, have direct implications for the design of MSP processes and the substantive protections that must be built into MSP frameworks. An MSP process that displaces small-scale fishers from their traditional fishing grounds without adequate consultation, compensation, and alternative livelihood support would violate these human rights obligations, regardless of whether it is formally compliant with UNCLOS and domestic maritime law.

The legal concept of customary fishing rights deserves particular attention in the Bangladeshi context. Traditional fishing communities along the Bangladesh coast have practised their livelihoods in specific coastal areas for many generations, and their patterns of resource use, including the use of specific fishing grounds, landing areas, and seasonal fishing arrangements, have the character of customary rights that deserve legal recognition and protection. The common law concept of customary rights over land and water, which has been recognised by courts in Bangladesh in various contexts, provides a potential legal basis for the recognition of customary fishing rights in maritime spaces. The international human rights framework, including the rights of indigenous and local communities, provides additional support for this recognition. A comprehensive MSP framework for Bangladesh must explicitly provide for the identification, mapping, and protection of customary fishing rights in coastal maritime areas.

CHAPTER TWO: THE DESIGN OF A MARINE SPATIAL PLANNING FRAMEWORK FOR BANGLADESH

2.1 The Current Absence of MSP in Bangladesh and Its Consequences

Bangladesh does not currently have a marine spatial planning framework. This absence is not merely a technical governance gap; it is a fundamental deficiency in the management of a national resource of extraordinary importance. Without MSP, the allocation of maritime space to competing uses is ad hoc, uncoordinated, and often determined by the political influence of the

most powerful interested parties rather than by rational assessment of ecological, economic, and social objectives. The result is a pattern of resource use that is simultaneously economically inefficient, ecologically damaging, and socially unjust.

The consequences of the absence of MSP are visible in several dimensions of Bangladesh's maritime situation. In the coastal zone, the coexistence of mangrove shrimp farming, industrial port development, tourism facilities, military installations, and artisanal fishing communities in the same coastal space creates conflicts that are resolved through informal political negotiation rather than through transparent planning processes. The shrimp farming industry, which expanded rapidly in the 1980s and 1990s, converted large areas of coastal mangrove forest and agricultural land to aquaculture ponds, with severe ecological and social consequences including the destruction of mangrove carbon sinks and biodiversity habitats, saline intrusion into freshwater systems, and the displacement of poor coastal communities. These conversions occurred in the absence of any spatial planning framework that could have assessed their cumulative impacts and regulated their extent.

In the offshore zone, the absence of MSP means that there is no systematic framework for assessing the compatibility of different uses of Bangladesh's EEZ, including commercial fisheries, offshore hydrocarbon exploration and development, marine protected areas, submarine cable routes, and potential offshore renewable energy installations. As Bangladesh's blue economy activities expand, these compatibility questions will become increasingly pressing, and the absence of MSP will increasingly manifest as conflict, inefficiency, and ecological degradation.

The development of the Matarbari deep-sea port complex in Cox's Bazar district, which is one of Bangladesh's most significant infrastructure investments and which is expected to transform the country's maritime trade logistics when fully operational, illustrates the consequences of the absence of MSP at the project scale. The environmental impact assessment processes that have been conducted for this project have been criticised by environmental organisations and legal scholars for their inadequacy in addressing cumulative and ecosystem-scale impacts, particularly on the coral reef ecosystem of St. Martin's Island, which is in the vicinity of the project area. A functioning MSP framework would have provided the spatial context within which such a project's impacts could be assessed systematically, the trade-offs between port development and reef conservation could be explicitly considered, and mitigation and compensation requirements could be rationally determined.

2.2 Legal Architecture for an MSP System in Bangladesh

The design of a legal architecture for MSP in Bangladesh requires attention to several interconnected elements: the statutory basis for MSP, the institutional framework for MSP development and implementation, the procedures for stakeholder consultation and public participation, the standards for ecological and environmental assessment, the legal effects of adopted MSP plans, and the mechanisms for monitoring, review, and adaptive management.

The statutory basis for MSP should be provided by a new, comprehensive Marine Spatial Planning Act that establishes the legal framework for ocean spatial governance in Bangladesh's

maritime zones. This Act should define the objectives of MSP, establish the authority responsible for developing and implementing MSP, specify the procedures for the development of MSP plans including stakeholder consultation requirements, define the legal status of adopted plans and their relationship to sectoral licensing and permitting decisions, and provide for monitoring, review, and adaptive management of MSP frameworks.

The objectives of MSP should be defined broadly, in a manner that reflects the ecosystem-based approach and the multiple values of marine space. Ecological sustainability, including the maintenance of biodiversity and ecosystem services, should be a primary objective, not merely a constraint on economic development. Economic development, including the sustainable utilisation of living and non-living resources, the development of maritime transport and ports, and the expansion of offshore energy, should be an objective pursued within ecological limits rather than as the overriding priority. Social equity, including the protection of the rights and livelihoods of small-scale fishers and coastal communities, should be an explicit statutory objective, creating a legal basis for fishers to challenge MSP decisions that fail to adequately protect their rights.

The MSP authority should be a body with both scientific and legal expertise, charged with developing and periodically reviewing the national MSP framework. Its composition should include representatives of the principal government agencies with maritime responsibilities, scientific experts in marine ecology, oceanography, and spatial planning, and representatives of the major stakeholder groups including fishing communities, the shipping industry, the hydrocarbon industry, and civil society environmental organisations. Its decision-making processes should be transparent and participatory, with meaningful opportunities for public comment on draft MSP plans.

The legal status of adopted MSP plans is a critical design question. If MSP plans have only advisory status, without binding effect on the licensing and permitting decisions of sectoral agencies, they will be routinely disregarded by agencies pursuing their sector-specific mandates, and the coordination benefits of MSP will not be achieved. Binding legal effect for MSP plans is essential, but it must be structured carefully to preserve the procedural rights of affected parties and to allow for adaptive management as circumstances change.

The relationship between the MSP framework and Bangladesh's international legal obligations deserves specific legislative attention. MSP plans should explicitly reflect Bangladesh's obligations under UNCLOS, the Convention on Biological Diversity, the BBNJ Agreement, and the climate change framework, including the obligations confirmed in the 2024 ITLOS Advisory Opinion. The MSP Act should require that MSP plans be consistent with these international obligations and should provide for their revision when new international obligations are assumed or when existing obligations are clarified by international legal developments.

2.3 Transboundary MSP: The Regional Dimension

Many of the ecological processes that MSP must protect and manage do not respect national maritime boundaries. Fish migrate across jurisdictional boundaries. Pollution travels through the water column across borders. Mangrove ecosystems span the Bangladesh-India border in the

Sundarbans. The cumulative impacts of human activities in multiple national maritime zones affect the shared ecological systems of the Bay of Bengal. Effective MSP for Bangladesh therefore requires cooperation with neighbouring states, particularly India and Myanmar, and with regional bodies including BIMSTEC.

Transboundary MSP has been developed in several regional seas contexts, most notably in the Baltic Sea, the North Sea, and the Coral Triangle. The Nordic experience, particularly the development of transboundary MSP frameworks between Norway, Sweden, Denmark, and Finland, provides relevant lessons about the institutional arrangements and legal instruments that can support coordinated cross-border spatial planning. The VASAB-HELCOM joint MSP framework for the Baltic Sea demonstrates how multiple states can develop consistent MSP approaches through voluntary cooperation without the need for binding treaty obligations.

In the Bay of Bengal context, BIMSTEC provides the most promising institutional framework for transboundary MSP cooperation. Article 123 of UNCLOS, which establishes obligations of cooperation among states bordering enclosed and semi-enclosed seas, provides a legal basis for a regional MSP approach in the Bay of Bengal. A BIMSTEC initiative on marine spatial planning, developing a regional MSP framework as part of the broader blue economy cooperation agenda being advanced through the 2025 BIMSTEC Ports Conclave and the Agreement on Maritime Transport Cooperation, would be a significant contribution to regional ocean governance and would serve Bangladesh's interests in the protection of shared marine ecosystems and the equitable management of shared resources.

The bilateral Sundarbans case is particularly important. The Sundarbans mangrove forest, the largest in the world, straddles the Bangladesh-India border and constitutes a single ecological system that is managed under two separate national frameworks. The Indo-Bangladesh Joint Rivers Commission has addressed some shared freshwater management issues but has not developed a comprehensive framework for the joint management of the marine and estuarine Sundarbans ecosystem. A bilateral MSP framework for the Sundarbans, developed through the existing bilateral governance relationship and potentially supported by international environmental funding, would provide enormous ecological and economic benefits and would serve as a model for broader regional MSP cooperation.

2.4 Climate Adaptation and MSP: Responding to Sea-Level Rise and Coastal Change

The interaction between climate change and MSP is one of the most important and most challenging dimensions of ocean governance for Bangladesh. Sea-level rise, increased cyclone intensity, coastal erosion, and the progressive deterioration of coral reef and mangrove ecosystems due to ocean warming and acidification are transforming the physical and ecological character of Bangladesh's maritime space in ways that require MSP frameworks to be explicitly adaptive.

The concept of climate-adaptive MSP, which has emerged in the academic and policy literature in the early 2020s, recognises that MSP cannot be designed on the assumption of a stable or predictable environment. Instead, MSP frameworks must include explicit provisions for adaptive management, including regular review cycles, predetermined triggers for plan revision in

response to observed environmental change, and scenario planning that considers multiple possible future states of the marine environment under different climate trajectories. The Norwegian and Dutch approaches to climate-adaptive coastal and maritime planning provide models that are relevant, though not directly transferable, to the Bangladesh context.

The legal implications of sea-level rise for MSP are profound. If the baseline from which maritime zones are measured shifts as the coast erodes or submerges, the spatial extent of the zones that MSP governs will change. MSP plans that are designed for current geographic conditions will need to be revised as conditions change. The rights and obligations of users and residents in coastal areas that become permanently inundated will need to be addressed. These are not merely theoretical concerns for Bangladesh; they are practical legal challenges that the country will face on an accelerating timescale as sea levels rise.

The International Law Commission's work on sea-level rise and international law, which is ongoing as of 2025, is directly relevant to Bangladesh's MSP design challenges. The ILC's preliminary conclusions, which have been issued in a series of reports since 2020, address the implications of sea-level rise for baselines, maritime zones, statehood, and the rights of affected populations. Bangladesh has been an active participant in the international debates around these conclusions, and the domestic MSP framework should be designed to be consistent with the emerging international legal framework for sea-level rise governance.

CHAPTER THREE: INTEGRATED OCEAN GOVERNANCE: THEORY, ARCHITECTURE, AND REFORM

3.1 The Problem of Fragmentation in Maritime Governance

The governance of Bangladesh's maritime zone is currently fragmented across a large number of ministries, agencies, and statutory bodies, each with its own sectoral mandate, its own legislative basis, its own enforcement capacity, and its own institutional culture. The Ministry of Shipping governs maritime transport, ports, and merchant shipping. The Ministry of Fisheries and Livestock governs marine fisheries. The Department of Energy and Mineral Resources governs offshore hydrocarbons. The Department of Environment governs marine pollution in general terms. The Bangladesh Coast Guard provides maritime law enforcement. The Bangladesh Navy exercises maritime security jurisdiction. The Ministry of Foreign Affairs manages international maritime boundary and treaty matters. The Bangladesh Space Research and Remote Sensing Organisation (SPARRSO) provides satellite monitoring of maritime areas. The Chittagong Port Authority and the Mongla Port Authority govern port operations and adjacent waters. And numerous other bodies have specific mandates that extend into the maritime domain.

This fragmentation is not unique to Bangladesh; it is a common feature of maritime governance in developing and developed countries alike. But it has particularly severe consequences in Bangladesh's context, where limited administrative capacity makes the coordination costs of fragmented governance especially high, where the overlapping mandates of multiple agencies create gaps in responsibility and disputes over jurisdiction, and where the absence of

coordinating mechanisms means that decisions in one sector routinely create problems for other sectors without any institutional mechanism for managing these interactions.

The academic literature on ocean governance has extensively analysed the problem of fragmentation and proposed various solutions. The concept of integrated coastal and ocean management (ICOM), developed in the 1990s and formalised in Chapter 17 of Agenda 21 and subsequent international instruments, provides a theoretical framework for addressing fragmentation through integrated governance structures that coordinate across sectors and scales. The cross-sectoral nature of ocean governance challenges, from fisheries to shipping to energy to tourism to conservation, makes integration not merely desirable but essential for effective management.

The polycentricity theory of governance, associated with Elinor Ostrom and the Bloomington school of political economy, offers a somewhat different perspective on the fragmentation problem. Ostrom's research on the governance of common pool resources, for which she received the Nobel Prize in Economics in 2009, demonstrated that successful governance of shared resources often relies not on centralised hierarchical control but on polycentric systems with multiple overlapping governing authorities, provided that these authorities are adequately connected through communication, coordination, and accountability mechanisms. On this view, the goal of ocean governance reform is not necessarily to replace the current fragmented architecture with a single unified authority, but to build the coordination mechanisms that allow the multiple existing governance actors to work together effectively.

The governance theory of Jody Freeman on collaborative governance, which emphasises the role of administrative processes in facilitating cooperation between government agencies, private sector actors, and civil society in the management of public resources, is also relevant to the design of an integrated ocean governance framework for Bangladesh. Freeman's approach suggests that governance effectiveness depends not only on getting the institutional architecture right but on developing the administrative culture, the information systems, and the participatory processes that enable diverse actors to collaborate effectively in pursuit of shared objectives.

3.2 Models of Integrated Ocean Governance: International Comparisons

Several countries have developed institutional frameworks for integrated ocean governance that provide models for Bangladesh's reform agenda. These models vary in their degree of centralisation, their institutional form, and their emphasis on different aspects of integration.

Norway's integrated management plans for its seas, developed from the early 2000s and covering the Barents Sea, the Norwegian Sea, and the North Sea, represent one of the most advanced approaches to integrated ocean governance in any country. The Norwegian approach brings together ecological assessments, economic analyses, and stakeholder consultations in a comprehensive framework that allocates sea space among fisheries, petroleum development, shipping, and conservation objectives. The legal framework for Norwegian integrated management is based on the Nature Diversity Act, the Marine Resources Act, and the Petroleum Activities Act, supplemented by an overarching government policy framework that gives legal effect to the integrated management plans. The Norwegian experience demonstrates the

feasibility of genuine integration across sectors and the importance of strong scientific information systems as a basis for management decisions.

Canada's Oceans Act of 1996 established an integrated ocean management framework that was among the first in the world. The Act gave the Minister of Fisheries and Oceans lead responsibility for oceans management and mandated the development of a National Oceans Strategy and large ocean management areas. The Canadian experience has been mixed in practice, with the integrated management framework achieving more success in some regions than others, but it illustrates the importance of a clear legislative mandate for integrated management and the challenges of building effective coordination across the multiple agencies with maritime responsibilities.

Australia's Oceans Policy of 1998, subsequently developed into regional marine planning frameworks, represents another approach to integrated ocean governance. Australia's federal structure, with shared maritime jurisdiction between the Commonwealth and state governments, created particular challenges for integration that have been addressed through intergovernmental agreements and cooperative frameworks. The development of Regional Marine Plans for Australia's marine bioregions, which bring together conservation, fisheries, shipping, and other sectoral interests in a spatially explicit governance framework, provides a model that is relevant to Bangladesh's situation.

China's development of the Blue Economy as a national development strategy, pursued through the National Ocean Development Plan and implemented by the State Oceanic Administration, provides a large developing country model that is of interest, though the very different political system makes it less directly applicable. China's investment in marine scientific research, hydrographic surveying, and maritime surveillance infrastructure as elements of ocean governance capacity provides a useful benchmark for the level of investment that serious maritime governance requires.

3.3 The Case for a Blue Economy Authority for Bangladesh

This commentary, consistent with arguments advanced by Bangladeshi scholars including those cited in the textbook's earlier parts, argues strongly for the establishment of a Blue Economy Authority (BEA) as the centrepiece of institutional reform for Bangladesh's maritime governance. The case for such an authority rests on several distinct but complementary grounds.

First, the current institutional fragmentation creates coordination costs that are prohibitive for a country with limited administrative capacity. A Blue Economy Authority, charged with coordinating the activities of the multiple existing agencies with maritime mandates, would reduce these coordination costs and improve governance effectiveness without requiring the politically difficult and practically complex task of merging existing agencies into a single mega-department.

Second, an integrated authority is necessary to implement an MSP framework effectively. MSP requires the integration of spatial decisions across sectors and the consistent application of MSP

plan provisions to the licensing and permitting decisions of all relevant agencies. Without an authority with cross-sectoral mandate and authority, MSP will remain advisory and ineffective.

Third, the development of the blue economy requires strategic direction and coordination that sectoral agencies, by their nature, cannot provide. A Blue Economy Authority could develop and implement the national maritime development strategy, coordinate investment in maritime infrastructure and capacity, promote the development of maritime industries, and ensure that blue economy activities are consistent with ecological sustainability and social equity objectives.

Fourth, a Blue Economy Authority would provide a single institutional home for Bangladesh's engagement with the international maritime governance frameworks, including UNCLOS institutions, BIMSTEC maritime bodies, the International Maritime Organisation, the International Seabed Authority, and the emerging BBNJ framework. The current dispersal of international maritime engagement across multiple ministries and agencies creates inconsistency and inefficiency in Bangladesh's international maritime diplomacy.

The design of a Blue Economy Authority for Bangladesh requires careful attention to several institutional design principles. The Authority must have a clear legal mandate that defines its functions, powers, and accountability arrangements. It must have the technical capacity, including scientific and legal expertise, necessary to perform its functions effectively. It must have adequate financial resources, which may require a dedicated funding mechanism such as a percentage of revenues from maritime resource licensing or hydrocarbon extraction. It must be accountable to parliament, through regular reporting and scrutiny, and to the public, through transparency and participation requirements. And it must be designed to avoid regulatory capture by powerful industrial interests, which has been a persistent problem in the governance of natural resources in many developing countries.

The international experience with integrated ocean governance authorities provides useful lessons for the design of Bangladesh's BEA. The South African Department of Environment, Forestry and Fisheries, which brought together previously separate mandates for environment, fisheries, and forestry in 2018, illustrates both the potential benefits and the implementation challenges of institutional integration. The New Zealand Ministry for Primary Industries, which governs fisheries and other living resources in an integrated framework, provides another model. The Maldives National University's Marine Research Institute, which provides the scientific foundation for the Maldivian government's blue economy and ocean governance decisions, illustrates the importance of institutional scientific capacity.

3.4 Reforming Maritime Licensing and Permitting Systems

The licensing and permitting systems through which rights to use marine space and resources are allocated are among the most important, and most consequential, components of maritime governance. These systems determine who gets access to fish stocks, to hydrocarbon deposits, to port facilities, to coastal land for aquaculture, and to marine research opportunities. The design of licensing systems has profound implications for efficiency, equity, sustainability, and the rule of law.

Bangladesh's current maritime licensing systems are widely regarded as inadequate in several respects. The fisheries licensing system, which is supposed to regulate access to the EEZ for commercial fishing vessels, is largely ineffective in practice, with widespread non-compliance and limited enforcement. The system does not adequately differentiate between small-scale and industrial fishing operations in a manner that protects the access rights of small-scale fishers. It does not effectively limit total fishing effort to sustainable levels. And it does not incorporate scientific assessments of fish stock status into the allocation of fishing rights in a systematic way.

The hydrocarbon licensing system, which is based on production sharing contracts between the government and international oil and gas companies, has been the subject of sustained criticism for its opaque terms, its inadequate environmental protection requirements, and its failure to secure adequate financial returns for the government. The international experience of natural resource contract governance, including the principles developed by the Natural Resource Governance Institute and the International Monetary Fund's fiscal frameworks for extractive industries, provides standards against which Bangladesh's hydrocarbon licensing framework falls significantly short.

A reformed maritime licensing framework for Bangladesh should be based on the following principles: transparency of terms and conditions, competitive allocation processes that maximise public benefit, environmental impact assessment requirements that are genuinely rigorous and independently reviewed, meaningful consultation with affected communities, proportionate licensing fees and royalties, strong compliance monitoring and enforcement mechanisms, and regular review of licence terms to ensure continued conformity with evolving legal standards and ecological conditions.

The question of licence tradability, specifically whether licences to use marine resources and space can be transferred between operators, raises complex policy and legal questions. Tradable fishing quotas, which have been used in New Zealand, Iceland, Australia, and a number of other countries as a mechanism for improving efficiency in fisheries management, have been the subject of intensive academic debate. Proponents argue that tradability concentrates licences in the hands of the most efficient operators and creates market incentives for conservation. Critics argue that tradability leads to the concentration of fishing rights in the hands of large industrial operators, the displacement of small-scale fishing communities, and the treatment of a public resource as a private property right in a manner that is inconsistent with the public trust doctrine and the community rights of fishing communities. For Bangladesh, where the protection of small-scale fishers' access to coastal resources is a paramount social justice concern, the introduction of tradable fishing quotas would require the most careful design and the most explicit legal protection for small-scale fishing community rights.

CHAPTER FOUR: DIGITAL MARITIME TRANSFORMATION AND THE LAW

4.1 The Digital Revolution in Maritime Operations: An Overview

The maritime sector is undergoing a digital transformation of extraordinary scope and speed, driven by the deployment of artificial intelligence, autonomous and remote-controlled vessels, satellite monitoring and communication systems, blockchain for maritime documentation and cargo tracking, big data analytics for vessel traffic management and fisheries monitoring, and a range of other digital technologies that are fundamentally altering the character of maritime operations. This digital transformation creates enormous opportunities for improved efficiency, safety, and governance in the maritime sector, but it also raises profound legal questions that existing frameworks were not designed to address.

The legal challenges of digital maritime transformation are not unique to Bangladesh; they are a global problem that is being addressed, with varying degrees of urgency and sophistication, by flag states, port states, international organisations including the International Maritime Organisation (IMO), and academic lawyers working at the intersection of maritime law and technology law. But the challenge is particularly significant for Bangladesh because the country's maritime legal framework is already in need of comprehensive reform, and the digital transformation is adding a new layer of complexity to an already complex reform agenda.

The principal legal questions raised by digital maritime transformation cluster around several themes: the legal personality and responsibility framework for autonomous vessels, the privacy and data protection implications of maritime surveillance technologies, the cybersecurity obligations of maritime operators, the legal status of blockchain-based maritime documentation, the application of existing jurisdiction and enforcement frameworks to remotely operated vessels, and the evidentiary implications of digital maritime data in legal proceedings. Each of these themes deserves sustained legal analysis in the Bangladesh context.

4.2 Autonomous Vessels and the Law: A Jurisprudential Analysis

The development of autonomous and remotely operated vessels, ranging from unmanned surface vehicles used for hydrographic survey and environmental monitoring to large commercial cargo vessels controlled remotely from shore-based operation centres, raises fundamental questions about the legal frameworks that govern vessel operation, liability for accidents and collisions, the rights and obligations of flag states and port states, and the application of UNCLOS's navigation provisions to non-traditional forms of maritime operation.

The International Maritime Organisation has been developing regulatory guidance on autonomous vessels since the completion of a scoping exercise in 2018, which examined the extent to which the major IMO instruments address autonomous operation and identified the gaps in the existing framework. The IMO has developed the concept of Maritime Autonomous Surface Ships (MASS) and is working toward a regulatory framework that would provide a legally coherent basis for the operation of autonomous vessels in international waters. The IMO's work on MASS has been proceeding in parallel with national regulatory developments in several maritime nations, including Norway, Finland, the United Kingdom, and Singapore, which have either already adopted or are developing specific legal frameworks for autonomous vessel operation.

The legal personality question is philosophically fascinating and practically significant. Traditional maritime law assigns legal personality to the ship, or more precisely to the shipowner and master, with a complex web of rights and obligations running between these actors and third parties. The master of the vessel plays a central role in this framework, as the person with navigational authority on board the vessel and the agent of the shipowner with specific responsibilities under SOLAS and other IMO instruments. When there is no master on board an autonomous vessel, or when a master is operating remotely from a shore-based control centre, the existing framework requires significant adaptation.

The liability framework for autonomous vessel accidents is one of the most practically pressing legal questions. Under existing maritime law, including the International Convention on Civil Liability for Oil Pollution Damage, the International Convention on Limitation of Liability for Maritime Claims, and the general principles of maritime tort law, liability for damage caused by vessel operations rests primarily with the shipowner, subject to the right of limitation of liability in most cases. When a vessel is autonomous, the question arises whether the software developer, the manufacturer of the autonomous system, the remote operator, or the shipowner bears primary liability for accidents caused by the vessel's autonomous decision-making. This question has not yet been definitively resolved in any jurisdiction, though the IMO's MASS regulatory framework is expected to provide guidance.

For Bangladesh, the development of domestic legal frameworks for autonomous vessels is both a forward-looking reform priority and a current governance question. Bangladesh is increasingly using remotely operated vessels and drones in coastal monitoring, hydrographic survey, and fisheries enforcement activities. The legal basis for these operations, including the liability framework for accidents involving government-operated unmanned maritime vehicles, needs to be addressed in domestic law. The longer-term question of how Bangladesh will regulate the passage and operation of commercially autonomous vessels in its territorial sea and EEZ requires engagement with the evolving international framework being developed at the IMO.

The application of UNCLOS to autonomous vessels raises several specific questions. The innocent passage provisions of UNCLOS apply to ships of all states, and the definition of a ship in UNCLOS is broad enough to encompass autonomous vessels. But the conditions for innocent passage, which include the requirement that passage must not be prejudicial to the peace, good order, or security of the coastal state, raise questions about how the actions of an autonomous vessel, which may not be subject to real-time human control, can be assessed against these conditions. The provisions on the laying of submarine cables and pipelines, which are relevant to autonomous cable-laying vessels, similarly need interpretation in the context of autonomous operation. These are questions that Bangladesh, as a coastal state with a significant territorial sea and EEZ, needs to engage with both domestically and in the international forums where the evolving framework is being developed.

4.3 Satellite Monitoring, Big Data, and Maritime Surveillance: Legal and Ethical Dimensions

The deployment of satellite-based monitoring systems for maritime surveillance has transformed the practical capacity of coastal states to monitor their EEZ and enforce maritime regulations.

The Automatic Identification System (AIS), which is required on all commercial vessels above a certain size under SOLAS and which transmits vessel identity, position, course, and speed data via radio frequency, provides a continuous stream of information about vessel movements that can be used for safety, security, and enforcement purposes. The Vessel Monitoring System (VMS), which is specifically designed for fisheries enforcement and which provides more detailed data about fishing vessel activities including gear deployment, is a complementary technology used in fisheries management. And newer satellite-based technologies, including synthetic aperture radar (SAR) and electro-optical imaging from commercial satellites, can detect and track vessels even when they are not transmitting AIS or VMS data, including vessels that are deliberately dark, meaning those that have turned off their tracking transponders.

The combination of these monitoring technologies with big data analytics creates a maritime domain awareness capability that would have been inconceivable twenty years ago. Global fishing watch, a non-governmental organisation that uses satellite AIS data and machine learning to track commercial fishing activity worldwide, has published studies showing the patterns of IUU fishing in Bangladesh's EEZ and in the wider Bay of Bengal, providing evidence of the scale of illegal fishing that Bangladesh's own monitoring systems have been unable to detect and address. Bangladesh's Coast Guard and Department of Fisheries have been beneficiaries of capacity building programmes that have provided access to some of these monitoring capabilities, but the legal and institutional frameworks for translating monitoring data into enforcement action are not adequately developed.

The legal and ethical dimensions of maritime surveillance raise important questions about privacy, sovereignty, and the use of surveillance data in legal proceedings. While vessels on the high seas and in EEZs do not have the same privacy expectations as individuals in private settings, the collection and use of data about vessel movements, cargo manifests, crew identities, and fishing activities by both public and private monitoring systems raises questions about data protection, the rights of crew members who may be individually identifiable in surveillance data, and the admissibility of satellite monitoring data as evidence in enforcement proceedings.

Bangladesh's domestic legal framework does not currently address these questions systematically. The development of a legal framework for maritime surveillance, including the authorisation and regulation of government surveillance activities, the standards for data collection, retention, and use, the procedures for the use of surveillance data in enforcement proceedings, and the rights of parties subjected to surveillance, is an important element of the maritime law reform agenda.

4.4 Blockchain Technology and Maritime Documentation

Blockchain technology, which provides a distributed, tamper-resistant record of transactions and information, has attracted significant interest in the maritime sector as a potential solution to the well-known problems of fraud, forgery, and inefficiency in maritime documentation. Bills of lading, letters of credit, ship registration documents, fisheries catch certificates, and port clearance documents are among the maritime documents that have been identified as potential candidates for blockchain-based systems.

The legal implications of blockchain-based maritime documentation are significant. The legal validity of an electronic bill of lading as a document of title, representing the right to receive cargo, has been the subject of decades of legal controversy, and the UNCITRAL Model Law on Electronic Transferable Records of 2017 was specifically designed to address this controversy by establishing a legal framework for the recognition of electronic transferable records equivalent to paper documents of title. Several major maritime jurisdictions, including the United Kingdom through the Electronic Trade Documents Act of 2023, have adopted legislation giving legal recognition to electronic bills of lading on blockchain platforms.

Bangladesh's Merchant Shipping Ordinance and related trade finance legislation do not currently accommodate blockchain-based bills of lading or other electronic maritime documents. This creates a practical disadvantage for Bangladeshi maritime trade, since the adoption of electronic bills of lading by major trading partners and shipping lines is proceeding rapidly, and the continued reliance on paper-based documentation creates costs and delays in Bangladeshi trade logistics. The reform of maritime documentation law to accommodate blockchain-based and other electronic document systems is both a practical trade facilitation need and an element of the broader digital transformation of Bangladesh's maritime legal framework.

The use of blockchain for fisheries certification is a particularly significant application for Bangladesh. Catch documentation schemes, which are used to verify the origin and legality of fish products and to prevent the laundering of IUU-caught fish into the supply chain, are a major element of international efforts to combat IUU fishing. The EU, which is the world's largest seafood market, requires catch certificates for all imported fish products as a condition of market access. The fraudulent manipulation of paper catch certificates is a well-documented problem in international fisheries trade, and blockchain-based certification systems, which provide an immutable and auditable record of the chain of custody from catch to market, offer a potential solution. Bangladesh's fisheries export sector, which relies heavily on European markets for shrimp and other high-value seafood products, has a strong commercial interest in developing a credible blockchain-based catch documentation system, and the development of the legal framework for such a system should be a priority in maritime law reform.

4.5 Cybersecurity and Maritime Infrastructure: Legal Obligations and Frameworks

The cybersecurity of maritime infrastructure, including vessels, port facilities, navigation systems, and maritime communication networks, has emerged as a major legal and policy concern in the aftermath of several high-profile maritime cyber incidents. The NotPetya cyberattack of 2017, which severely disrupted the operations of Maersk, one of the world's largest container shipping companies, and caused estimated losses of 300 million US dollars, demonstrated the vulnerability of maritime operations to cyber attack. The port of Shahid Rajaee in Iran was the subject of a cyberattack in 2020. The IMO's own systems were the target of a cyberattack in 2020. These incidents have prompted the development of international cybersecurity standards for maritime operations.

The IMO adopted Resolution MSC-FAL.1/Circ.3 on Maritime Cyber Risk Management in Safety Management Systems in 2017, establishing that cyber risk should be appropriately addressed in maritime safety management systems by 1 January 2021. The ISM Code, which

provides the framework for safety management systems on commercial vessels, was interpreted to require the inclusion of cyber risk management from that date. The IMO has subsequently developed more detailed guidance on maritime cyber risk management, and several major classification societies have developed their own cybersecurity standards for vessels and maritime infrastructure.

Bangladesh's maritime cybersecurity framework is in its early stages of development. The Chittagong Port Authority has been working on digitisation and cybersecurity improvements as part of the Port Community System development, but the legal framework for maritime cybersecurity obligations, for the reporting of maritime cyber incidents, and for the coordination of cybersecurity governance across the multiple agencies responsible for different elements of maritime infrastructure is not well developed. The 2025 Digital Security Act and its successor legislation in Bangladesh's domestic legal framework address cybersecurity generally, but they do not specifically address the distinctive characteristics of maritime cybersecurity, including the operational technology systems on vessels, the safety-critical character of navigation and communication systems, and the international dimension of maritime cyber threats.

A comprehensive maritime cybersecurity legal framework for Bangladesh should establish minimum cybersecurity standards for vessels flying the Bangladesh flag and for port facilities in Bangladesh, create a maritime cyber incident reporting system that connects to both domestic law enforcement and international maritime and cybersecurity institutions, specify the liability regime for losses resulting from maritime cyber incidents, and ensure that maritime cybersecurity governance is coordinated across the relevant government agencies.

CHAPTER FIVE: FISHERIES GOVERNANCE REFORM IN DEPTH

5.1 The State of Bangladesh's Marine Fisheries: A Critical Assessment

Marine fisheries remain the most economically and socially significant dimension of Bangladesh's maritime interests for the majority of the population directly dependent on the sea. The Bay of Bengal is one of the most productive marine fisheries environments in the world, characterised by high primary productivity driven by the substantial freshwater input and nutrient load from the major rivers, a diverse array of commercially important species including hilsa, shrimp, tuna, cuttlefish, and numerous reef and demersal fish species, and an enormous and historically abundant small pelagic fish community that supports both commercial and artisanal fishing. Bangladesh's total marine fish catch was approximately 700,000 to 800,000 tonnes per year in recent years, making it one of the world's significant marine fishing nations.

However, the state of Bangladesh's marine fisheries is cause for serious concern. Multiple lines of evidence, including the government's own fisheries statistics, scientific surveys conducted by the Bangladesh Fisheries Research Institute, and assessments by international organisations including the FAO and the Bay of Bengal Large Marine Ecosystem Programme (BOBLME), indicate that several commercially important species in Bangladesh's coastal and offshore waters are overfished or experiencing declining catches despite increasing fishing effort. The total

biomass of demersal fish in the coastal zone has declined substantially over the past three decades. Shrimp and prawn stocks, once the most valuable component of Bangladesh's marine fisheries, have declined significantly in both abundance and catch per unit effort. Even the hilsa, the culturally iconic and economically important anadromous fish that is central to Bengali culinary identity, has experienced population stress, though targeted conservation measures including seasonal fishing bans and hilsa sanctuary designation have produced some recovery in recent years.

The causes of these declines are multiple and interacting. Overfishing, driven by the combination of excess fishing capacity in the domestic fleet and IUU fishing by foreign vessels, is a primary driver. Habitat degradation, including the destruction of mangrove nursery habitats, the degradation of coastal wetlands and intertidal areas, and the sedimentation and pollution of estuaries, has reduced the reproductive success and juvenile survival of many commercially important species. Climate change is altering the distribution and abundance of fish species in ways that are not yet fully understood but that are already affecting fishing communities. And the governance framework for fisheries management, as analysed throughout this commentary, is deeply inadequate.

5.2 The Science-Law Interface in Fisheries Management

Effective fisheries management requires an intimate and well-designed interface between scientific assessment and legal decision-making. This interface is among the most challenging in all of environmental governance, because fisheries science is inherently uncertain, because the economic and political incentives to deny or minimise scientific evidence of stock decline are powerful, and because the time lags between management action and ecological response create attribution problems that make adaptive management difficult.

The concept of maximum sustainable yield (MSY), which has been the dominant concept in fisheries management since the 1950s and which is incorporated in UNCLOS Article 61(3) as the standard for the conservation of EEZ fisheries, has been extensively criticised by ecologists and fisheries scientists for its single-species focus, its tendency to overestimate sustainable catch levels, and its failure to account for ecosystem interactions and environmental variability. Alternative concepts, including maximum economic yield (MEY), which aims to maximise net economic returns from fishing, the precautionary approach, which requires that management action be taken in the absence of adequate scientific information rather than waiting for proof of stock decline, and the ecosystem approach to fisheries, which takes account of the ecological relationships among species and between species and their habitats, have been incorporated into international fisheries law and management frameworks.

UNCLOS Articles 61 and 62, read in light of the 1995 UN Fish Stocks Agreement, which elaborated the UNCLOS framework for the management of straddling and highly migratory fish stocks, establish that the management of EEZ fisheries must apply the precautionary approach and take account of the best available scientific information. The 2024 ITLOS Advisory Opinion, by emphasising the role of best available science in the fulfillment of due diligence obligations under UNCLOS, reinforces the legal obligation to base fisheries management on scientific evidence.

Bangladesh's fisheries management framework does not adequately reflect these developments in the science-law interface. The Marine Fisheries Ordinance of 1983 does not incorporate the precautionary approach, does not require the development of fisheries management plans based on scientific stock assessments, and does not establish a legal framework for the use of scientific advice in management decision-making. The Bangladesh Fisheries Research Institute conducts stock assessments and other research, but the legal connection between research outputs and management decisions is not clearly established. A reformed fisheries legal framework must create this connection explicitly, establishing the procedures by which scientific assessments are translated into management decisions, the legal status of those decisions, and the legal rights of affected parties to participate in and challenge management processes.

5.3 Fisheries Agreements and the Rights of Foreign Fishing Vessels

Bangladesh does not currently have any significant fisheries access agreements with foreign states. This is in contrast to a number of other developing coastal states, particularly in West Africa and the Pacific, which have negotiated access agreements with distant-water fishing fleets from the European Union, Japan, China, South Korea, and other states, under which foreign vessels pay fees for the right to fish in the host country's EEZ. These agreements provide revenue to developing coastal states but also raise serious concerns about the equitable sharing of benefits and the sustainability of fishing effort.

The European Union's Sustainable Fisheries Partnership Agreements (SFPAs), which replaced the earlier Fisheries Partnership Agreements, attempt to address the sustainability concerns by linking access rights to the existence of a surplus of fish beyond what the coastal state's domestic fleet can harvest, as required by UNCLOS Article 62. They also provide financial contributions for the development of the coastal state's fisheries governance capacity. The academic and policy debate about the equity of SFPAs and their predecessors has been extensive, with critics arguing that even the reformed SFPAs systematically disadvantage developing coastal states by undervaluing their fish resources, limiting their policy autonomy, and failing to adequately transfer technology and capacity.

For Bangladesh, the question of whether to negotiate fisheries access agreements with distant-water fishing states is a significant policy choice that requires careful legal and economic analysis. The Bay of Bengal tuna fishery, which is significantly underutilised by Bangladesh's domestic fleet, could potentially generate substantial revenue through access agreements with tuna fishing fleets from the European Union, Japan, and other states. But any such agreements would need to be designed with extreme care to avoid the exploitation risks identified in the African experience, to ensure that access fees reflect the true economic value of the fish resources, to prohibit the landing of catch in ports other than Bangladesh's, and to require the employment of Bangladeshi crew members and observers on foreign vessels operating in Bangladesh's EEZ.

5.4 Hilsa Management: A Case Study in Fisheries Governance

The hilsa (Tenualosa ilisha) is perhaps the most culturally and economically significant fish in Bangladesh. Known as the national fish and deeply embedded in Bengali cultural identity

through its central role in cuisine, festivals, and literature, the hilsa is simultaneously a subsistence food for poor coastal communities, a high-value commercial product, and a cultural symbol of national identity. The management of the hilsa fishery is therefore not merely an ecological and economic question; it is also a deeply political and cultural one.

The hilsa inhabits both fresh and marine waters, migrating from the Bay of Bengal into the rivers of Bangladesh and neighbouring states for spawning. This anadromous lifecycle means that the management of the hilsa fishery requires coordination between marine and freshwater fisheries governance, between Bangladesh and India (since hilsa migrate into both countries' waters), and between multiple government agencies. The Hilsa Management Action Plan, developed by the Department of Fisheries with support from the BOBLME Programme and other international partners, represents the most comprehensive framework for hilsa conservation in Bangladesh's history, incorporating seasonal fishing bans on spawning hilsa, hilsa sanctuary designation in critical breeding grounds, and gear restrictions.

The legal framework supporting hilsa management has significant gaps. The seasonal ban on catching jatka, the juvenile hilsa, and on catching spawning adults during the main migration period, is implemented through periodic government orders under the existing fisheries legislation, but the legal basis for these orders and their enforceability against both commercial and artisanal fishers are not entirely clear. The compensation schemes that have been developed to support fishing households during the ban period, which are an essential element of the management framework, are implemented through executive action rather than through a stable and transparent legislative framework. A reformed hilsa management law, which would provide a statutory basis for the management plan, the ban provisions, the sanctuary designations, and the compensation mechanisms, would significantly strengthen both the legality and the effectiveness of hilsa conservation governance.

The bilateral dimension of hilsa management, specifically the coordination of conservation measures between Bangladesh and India, is a significant unresolved issue. Hilsa caught in Indian waters, particularly in the Hooghly River and in the Indian portion of the Sundarbans, are subject to Indian fisheries regulations that differ from Bangladesh's management framework. The absence of a bilateral management agreement creates the possibility of conservation efforts in Bangladesh being undermined by uncontrolled fishing on the same stock in Indian waters, a classic problem of shared fish stock management that UNCLOS Article 63 specifically requires states to address through cooperation. Bangladesh's engagement with India on hilsa management has been primarily diplomatic and scientific rather than legal, and the development of a formal bilateral management agreement should be a priority in both countries' fisheries governance agendas.

CHAPTER SIX: MARITIME LABOUR LAW AND THE RIGHTS OF SEAFARERS

6.1 The International Legal Framework for Seafarers' Rights

The rights of seafarers, the men and women who crew the world's commercial fleet and on whose labour the global maritime trade system depends, are governed by a comprehensive international legal framework anchored in the Maritime Labour Convention of 2006 (MLC 2006), adopted under the auspices of the International Labour Organisation, and in the related work of the IMO on safety at sea. The MLC 2006, which entered into force in 2013 and has been described as the fourth pillar of international maritime law alongside UNCLOS, SOLAS, and MARPOL, establishes minimum standards for seafarers' working conditions, including standards on employment agreements, wages, hours of work and rest, accommodation, food and catering, health protection, medical care, welfare, and social security. It applies to all commercial vessels of five hundred gross tonnage or more that operate internationally.

Bangladesh is both a flag state and a labour-supplying state in the international maritime industry. The Bangladesh flag registry, administered by the Department of Shipping, includes a significant number of commercial vessels. And Bangladesh is one of the world's major suppliers of seafarers to the international fleet, with tens of thousands of Bangladeshi seafarers employed on vessels of many different flags. This dual role creates both obligations and interests in the effective implementation of the MLC 2006 and related international maritime labour standards.

Bangladesh ratified the MLC 2006 in 2014, creating international obligations to implement its standards both as a flag state, in relation to vessels flying the Bangladesh flag, and as a port state, in relation to the inspection of foreign vessels calling at Bangladesh's ports. The Merchant Shipping Ordinance and related legislation provide the domestic legal framework for these obligations, but the implementation of MLC 2006 standards in Bangladesh has been incomplete and inconsistent. Maritime Labour Inspectors, responsible for inspecting vessels and certifying compliance with MLC 2006, have been deployed but in insufficient numbers and with inadequate training and resources.

Bangladesh has not ratified the Work in Fishing Convention of 2007 (ILO C188), which applies MLC-equivalent standards to fishing vessels. This is a significant gap given the enormous number of Bangladeshi fishers working in marine capture fisheries. The working conditions of small-scale fishers, in particular, involve frequent and serious violations of international labour standards, including extremely long working hours, inadequate safety equipment, no contracts or social security, dangerous working conditions, and child labour in some contexts. The absence of a legal framework that effectively applies international labour standards to the fishing sector, and the absence of ratification of C188, is both a violation of human rights obligations and a practical concern for Bangladesh's fishing industry, which faces market access restrictions in export markets that increasingly require certification of labour standard compliance in seafood supply chains.

6.2 Seafarers' Rights and the Bangladesh Legal Framework

Bangladesh's domestic legal framework for seafarers' rights is contained primarily in the Merchant Shipping Ordinance of 1983 (as amended), the Merchant Shipping Regulations, and the Bangladesh Seafarers' Rules. These instruments establish requirements for the certification of seafarers, the conditions of their employment, their wages and working hours, their accommodation and welfare, and their rights in cases of abandonment or non-payment of wages.

The legal framework has significant deficiencies that have been identified in numerous reports by the ITF, the International Transport Workers' Federation, and other labour rights organisations. Enforcement of seafarers' rights on Bangladesh-flagged vessels is weak, with limited maritime labour inspection capacity and inadequate mechanisms for seafarers to assert their rights without fear of retaliation. The complaints mechanism for seafarers seeking redress for violations of their rights is not effectively publicised or accessible, particularly for seafarers who may be at sea or in foreign ports. The recognition and certification of Bangladeshi seafarers, which is governed by the STCW Convention under IMO auspices, has been subject to periodic concerns about the quality and integrity of the certification process.

The rights of Bangladeshi seafarers employed on foreign-flagged vessels are an additional dimension of concern. When Bangladeshi seafarers are employed on vessels registered in flags of convenience, they may be subject to the labour laws of the flag state rather than of Bangladesh, and the flag state's enforcement capacity may be minimal or non-existent. The MLC 2006 addresses this problem by creating obligations for port states and labour-supplying states, in addition to flag states, to enforce seafarers' rights, but Bangladesh's capacity to exercise its obligations as a labour-supplying state under MLC 2006 is limited.

The seafarers' welfare dimension of maritime labour rights deserves specific attention. Seafarers are among the most isolated and vulnerable workers in the global economy, spending months at sea away from their families and communities, often unable to communicate freely, and in many cases unable to access shore-based welfare and support services when their vessels call at ports. The COVID-19 pandemic, which created a crew change crisis in which hundreds of thousands of seafarers were stranded on vessels for periods far exceeding their contractual obligations because flag states and port states refused to allow crew changes, illustrated in the most dramatic way the vulnerability of seafarers to the decisions of states and shipowners over which they have no effective control. Bangladesh, as a major seafarer-supplying state, was directly affected by this crisis, and the legislative and institutional responses to it demonstrated both the importance of effective seafarers' rights protection frameworks and the inadequacies of the current system.

CHAPTER SEVEN: OFFSHORE HYDROCARBON GOVERNANCE: LEGAL REFORM AND INTERNATIONAL BEST PRACTICE

7.1 The Regulatory Framework for Offshore Hydrocarbon Development

The governance of offshore hydrocarbon exploration and production in Bangladesh's EEZ and continental shelf is one of the most technically complex and financially significant dimensions of maritime law reform. Offshore hydrocarbon development involves the intersection of resource law, contract law, environmental law, maritime safety law, international investment law, and company law in a regulatory framework that must simultaneously attract foreign investment, protect the public interest in resource revenues, ensure environmental safety, and respect the rights of coastal communities.

Bangladesh's offshore hydrocarbon governance framework is based on the Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, which established Petrobangla as the national oil company and provided the framework for production sharing contracts with international oil companies. The Production Sharing Contract (PSC) model used by Petrobangla has been revised several times, but it has been criticised by energy economists and resource governance analysts for providing inadequate financial returns to the government, insufficient environmental protection requirements, and opaque contract terms that make it difficult for parliament and civil society to scrutinise the terms of resource development agreements.

The international benchmark for offshore hydrocarbon governance, as identified by the Natural Resource Governance Institute (NRGI) in its annual Resource Governance Index, includes several key elements: a clear and transparent legal framework governing resource rights and contracts, competitive and transparent licensing processes, strong environmental and safety regulation, adequate fiscal terms that capture a fair share of resource rents for the public, effective monitoring and enforcement of contract compliance, revenue management and transparency mechanisms, and meaningful community consultation and environmental impact assessment. By most of these benchmarks, Bangladesh's offshore hydrocarbon governance framework falls significantly short of international best practice.

7.2 Environmental Regulation of Offshore Operations

The environmental regulation of offshore hydrocarbon operations is a dimension of maritime environmental law that has been inadequately developed in Bangladesh's legal framework. The Macondo well blowout in the Gulf of Mexico in 2010, which killed eleven workers, released an estimated 4.9 million barrels of oil into the Gulf, and caused catastrophic damage to marine ecosystems and coastal communities, demonstrated in the most dramatic way the potential consequences of inadequate offshore safety and environmental regulation. Similar, though less dramatic, incidents involving offshore hydrocarbon operations in the Bay of Bengal and adjacent waters have occurred, though they have received less international attention.

The international framework for offshore safety and environmental regulation includes the IMO's Maritime Pollution Convention (MARPOL) provisions applicable to offshore installations, the OPRC Convention on Oil Pollution Preparedness, Response, and Cooperation, and the regional arrangements for offshore safety that have been developed in various parts of the world including the EU's Offshore Safety Directive of 2013. The Offshore Safety Directive, adopted in response to the Macondo disaster, established comprehensive requirements for offshore safety management, independent verification of well integrity, emergency response planning, transparency and reporting, and civil liability for offshore pollution damage.

Bangladesh has no equivalent domestic legislation. The general provisions of the Environmental Conservation Act and the marine environmental provisions of the Territorial Waters and Maritime Zones Act as amended do not provide the specific regulatory framework that offshore hydrocarbon operations require. The absence of specific offshore safety legislation means that there are no clear minimum standards for well integrity, blowout prevention equipment, emergency response planning, or environmental monitoring on offshore installations in

Bangladesh's waters. This is a critical governance gap that exposes Bangladesh and the Bay of Bengal marine environment to significant risk.

A comprehensive offshore safety and environmental regulation law for Bangladesh should draw on the best available international models, including the Norwegian Petroleum Safety Authority framework and the EU Offshore Safety Directive. It should establish an independent offshore safety regulator with the technical competence, institutional independence, and enforcement powers necessary for effective oversight of offshore operations. It should require the preparation and regulatory approval of safety and environment management systems for all offshore installations. It should establish mandatory emergency response plans and environmental contingency arrangements, including arrangements for coordination with coastal states and international bodies in case of major pollution incidents. And it should establish a rigorous, independently reviewed environmental impact assessment process for all offshore development proposals.

7.3 Revenue Governance and the Resource Curse in Maritime Context

The management of revenues from offshore hydrocarbon extraction presents Bangladesh with one of the classic development policy challenges: how to translate windfall resource revenues into sustainable development without falling into the resource curse, the paradoxical phenomenon in which resource-rich countries achieve lower rates of economic growth, higher rates of corruption, and worse governance outcomes than resource-poor countries. The resource curse has been extensively documented in the economic and political science literature, from the early work of Sachs and Warner in the 1990s to the comprehensive institutional analyses of Acemoglu and Robinson and the detailed case studies of the Natural Resource Governance Institute.

The mechanisms through which the resource curse operates include Dutch Disease, in which resource revenues appreciate the exchange rate and thereby disadvantage non-resource traded sectors; the fiscal volatility associated with commodity price cycles, which creates boom-bust patterns of public expenditure; the rent-seeking and corruption that large resource revenues tend to generate; and the weakening of state-society accountability relationships when governments are funded by resource revenues rather than by taxation.

The international experience has developed a number of institutional mechanisms for managing resource revenues in ways that reduce the risk of the resource curse. Sovereign wealth funds, modelled on Norway's Government Pension Fund Global (originally the Petroleum Fund), provide a mechanism for accumulating resource revenues during commodity price booms and drawing on them to stabilise public expenditure during busts. Transparency mechanisms, including the Extractive Industries Transparency Initiative (EITI), which requires the publication of payments by extractive companies to governments and reconciliation of these payments against government records, reduce the opportunities for corruption and increase the accountability of resource revenue management. Revenue sharing mechanisms, which allocate a portion of resource revenues to the communities in whose territories or adjacent maritime areas extraction takes place, can address the distributional grievances associated with large-scale resource development.

Bangladesh has not yet established a sovereign wealth fund or an EITI framework for its offshore hydrocarbon revenues, and the discussion of such mechanisms has been at best preliminary. As Bangladesh's offshore hydrocarbon production expands, the design of a governance framework for resource revenues that is consistent with international best practice and that serves the long-term development interests of the Bangladeshi people is an urgent legal and institutional priority.

CHAPTER EIGHT: THE INTERNATIONAL SEABED AUTHORITY, DEEP SEABED MINING, AND BANGLADESH'S INTERESTS

8.1 The International Seabed Authority: Mandate, Structure, and Evolving Jurisprudence

The International Seabed Authority (ISA), established under Part XI of UNCLOS and the 1994 Implementation Agreement, is the international organisation responsible for governing the exploitation of mineral resources from the deep seabed of the Area, defined as the seabed and ocean floor beyond the limits of national jurisdiction. The ISA has authority to regulate and supervise the extraction of mineral resources from the Area, which contains significant deposits of polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts that include economically significant concentrations of manganese, nickel, copper, cobalt, and rare earth elements.

The ISA has been the subject of increasing political and legal controversy in recent years, driven by the acceleration of interest in deep seabed mining as a potential source of critical minerals for the energy transition, and by the countervailing concerns of marine scientists and environmental advocates about the irreversible damage that deep seabed mining could cause to fragile and poorly understood deep-sea ecosystems. The ISA's Mining Code, which is the regulatory framework governing the exploration and exploitation of seabed minerals, has been under development for many years, with the exploitation regulations being the most contested and still incomplete element.

The trigger for the exploitation regulations debate was Nauru's invocation of the two-year rule in June 2021, by which a sponsoring state can trigger a provisional regime under which the ISA's Council must consider an exploitation application even if the regulations have not been finalised. This action effectively imposed a deadline on the finalisation of the exploitation regulations and created intense pressure on the ISA's regulatory process. The ISA's Council has been unable to finalise the exploitation regulations within the envisaged timeline, and the question of whether exploitation can proceed under a provisional framework in the absence of finalised regulations is now the subject of legal controversy.

The ITLOS Advisory Opinion on the Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, issued in 2011 in Case No. 17, established important principles on the due diligence obligations of sponsoring states and on the liability framework for damage caused by deep seabed activities. The Opinion held that sponsoring states have obligations of due diligence to ensure that sponsored entities comply with

the ISA framework and do not cause damage to the marine environment. It also confirmed the precautionary approach as applicable to deep seabed activities, holding that in cases where there is uncertain scientific evidence regarding the impacts of an activity, precautionary measures are required even before the full extent of the risk is known.

8.2 Bangladesh's Position and Interests in Deep Seabed Governance

Bangladesh, as a party to UNCLOS and a member of the ISA, has both rights and obligations in relation to the governance of the Area. Bangladesh's outer continental shelf claim, which extends beyond the 200-mile EEZ in certain areas as established by the ITLOS judgment and the PCA award, means that Bangladesh has sovereign rights over the seabed resources in a portion of the Bay of Bengal that extends beyond the outer edge of the continental shelf, where UNCLOS Area begins. The boundary between Bangladesh's continental shelf and the Area is a legally significant line that is defined by the outer limits of the continental shelf.

Bangladesh's interests in ISA governance are primarily those of a developing state member: it has an interest in ensuring that the common heritage of mankind principle is given genuine effect in the distribution of benefits from deep seabed mining, including through the Enterprise, the ISA's own mining arm, and through the benefit-sharing fund; it has an interest in ensuring that the ecological risks of deep seabed mining are rigorously assessed and managed, given the potential transboundary impacts of deep seabed pollution on adjacent continental shelf environments; and it has an interest in the capacity building and technology transfer provisions of Part XI, which are intended to assist developing states in acquiring the knowledge and skills needed to participate in deep seabed activities.

The recent political turmoil around deep seabed mining, including Nauru's triggering of the two-year rule, the decisions by France, Germany, Chile, Costa Rica, and other states to oppose deep seabed mining pending further scientific assessment, and the ongoing debates about the adequacy of the ISA's environmental management framework, is a matter in which Bangladesh should be actively engaged in international forums. As a coastal developing state with a large maritime area and significant ecological interests in the Bay of Bengal, Bangladesh should support the precautionary approach to deep seabed mining governance and advocate for strong environmental protection standards and genuine benefit sharing in the ISA's exploitation regulations.

CHAPTER NINE: PORT STATE CONTROL AND BANGLADESH'S OBLIGATIONS AS PORT STATE

9.1 The Port State Control Regime: International Framework

Port state control (PSC) is one of the most important mechanisms for ensuring compliance with international maritime safety and environmental standards on foreign vessels calling at a country's ports. It is based on the principle that each port state has the right and the obligation to inspect foreign vessels calling at its ports to verify that they comply with the applicable

international conventions, and to detain vessels that are found to be substandard until the deficiencies are rectified.

The international framework for PSC is provided by the relevant conventions, including SOLAS, MARPOL, the Load Lines Convention, the Standards of Training, Certification and Watchkeeping (STCW) Convention, and the MLC 2006, supplemented by memoranda of understanding (MOUs) among port states that coordinate PSC inspection activities and share information about inspection results. The Indian Ocean MOU on Port State Control, which entered into force in 1998 and now has twenty-two member states including Bangladesh, India, and several other Bay of Bengal coastal states, is the principal PSC coordination framework for the region.

Bangladesh's performance as a member of the Indian Ocean MOU has been mixed. The Directorate of Shipping, which is responsible for PSC inspections in Bangladesh, has faced persistent challenges of inadequate numbers of trained inspectors, limited equipment and testing facilities, and institutional weaknesses that have reduced the effectiveness of PSC as a regulatory tool. A number of vessels calling at Chittagong and Mongla ports have been detained for serious deficiencies that should have been detected in PSC inspections, raising questions about the thoroughness and consistency of Bangladesh's inspection regime.

9.2 The Paris MOU and Concentration Factors: Bangladesh's Flag State Performance

Bangladesh's performance as a flag state, in terms of the PSC detention record of Bangladesh-flagged vessels in other ports, is also a matter of concern. Vessels flying the Bangladesh flag have in some periods appeared on the grey or black lists maintained by various MOU bodies, indicating a higher than average rate of detention in port state control inspections. Appearing on these lists has significant practical consequences for Bangladesh's flag registry, including increased inspection rates in member ports, reputational damage to the Bangladesh flag, and potential difficulties for shipowners in obtaining insurance and charter contracts.

The improvement of Bangladesh's flag state performance requires investment in the maritime administration's capacity to ensure that Bangladesh-flagged vessels are inspected and certified to a high standard before they are allowed to operate internationally. The reform of the Bangladesh flag registry, potentially including the development of more transparent and rigorous flag state control mechanisms and the separation of commercial and regulatory functions of ship registration, should be an element of the broader maritime governance reform agenda.

CHAPTER TEN: THE JURISPRUDENTIAL PHILOSOPHY OF MARITIME LAW REFORM

10.1 Legal Positivism, Natural Law, and Maritime Reform

The philosophy of law provides essential tools for thinking carefully about the nature and direction of maritime legal reform. The debate between legal positivism and natural law, which

has been a central theme of jurisprudential philosophy from Hobbes and Locke through Austin and Bentham to Hart and Dworkin, has direct implications for the approach to maritime reform in Bangladesh.

Legal positivism, in its strongest form associated with the work of John Austin and H.L.A. Hart, holds that law is a social fact: it consists of the rules that have been enacted by competent legal authorities in accordance with recognised procedures, and its validity is determined by its pedigree in this sense rather than by its moral content. On this view, the task of legal reform is to bring domestic law into conformity with valid obligations, whether international or constitutional, and to design rules that effectively regulate the behaviour of actors in maritime spaces. The morality or justice of these rules is a separate question from their legal validity.

Ronald Dworkin's critique of positivism, most fully elaborated in Law's Empire published in 1986, argued that legal reasoning cannot be reduced to the mechanical application of enacted rules and that it necessarily involves reference to principles that have moral content but are not themselves explicitly enacted. Dworkin's concept of law as integrity, which requires that legal decisions be consistent with the best moral interpretation of the community's legal and political history, provides a framework for legal reform that goes beyond technical compliance with existing rules and asks what kind of ocean governance framework best reflects Bangladesh's constitutional commitments to justice, equality, and the welfare of its people.

From a Dworkinian perspective, the reform of Bangladesh's maritime legal framework is not merely a technical exercise in regulatory design but a moral project: it requires asking what principles of justice should govern the allocation of maritime resources, the protection of marine ecosystems, and the governance of the people who depend on the sea for their livelihoods, and designing legal institutions that give practical effect to those principles. The answer to this question will be contested, because different principles, including efficiency, equity, ecological sustainability, national sovereignty, and community rights, are not always compatible, and the process of legal reform necessarily involves political choices about which values to prioritise in cases of conflict.

John Rawls's theory of justice as fairness, developed in A Theory of Justice published in 1971 and elaborated in Political Liberalism in 1993, provides one influential framework for thinking about these choices. Rawls's difference principle, which holds that social and economic inequalities are justified only if they benefit the least advantaged members of society, has obvious implications for the design of maritime governance frameworks in a country where the least advantaged are the poor coastal fishing communities whose livelihoods depend on access to the sea. On Rawlsian grounds, a maritime governance framework that allocates fishing rights to large industrial operators while leaving small-scale fishers with inadequate and insecure access to coastal resources, or that distributes the revenues from offshore hydrocarbon development to the wealthy while imposing environmental costs on the poor, would fail the test of justice.

Amartya Sen's capabilities approach, which shifts the focus from the distribution of resources to the actual freedoms that people enjoy to live lives they have reason to value, provides a complementary framework. Sen's approach suggests that the measure of the success of maritime governance reform is not merely whether Bangladesh achieves higher GDP from its blue

economy, or whether international treaty obligations are formally complied with, but whether the governance framework expands the real freedoms of the most vulnerable members of coastal communities. This includes the freedom of small-scale fishers to sustain their livelihoods, the freedom of women in coastal communities to participate in economic and governance processes, and the freedom of future generations to inherit a marine environment that has not been irreversibly degraded by current exploitation.

10.2 The Critical Theory Perspective on Maritime Law Reform

The critical legal studies tradition, as applied to the law of the sea in the work of scholars like David Kennedy, Martti Koskenniemi, and TWAIL scholars including Antony Anghie, offers a perspective that challenges the self-presentation of international maritime law as a neutral, technical, and universally beneficial framework and reveals its political and ideological dimensions.

Koskenniemi's work on the indeterminacy of international law, most fully elaborated in The Gentle Civilizer of Nations published in 2001 and From Apology to Utopia published in 2006, argues that international legal argument systematically oscillates between two poles: apologist arguments that defer to the sovereign preferences of states and utopian arguments that invoke universal principles to constrain state behaviour. Neither pole is philosophically stable, because pure apology reduces international law to an instrument of power while pure utopia becomes a mask for the imposition of the preferences of the powerful as universal norms. The challenge for international legal reform is to find a position that takes seriously both the autonomy of states and the moral claims of universal principles without collapsing into either pure power or pure ideology.

Applied to Bangladesh's maritime law reform, Koskenniemi's framework suggests that the challenge is not simply to comply with UNCLOS and international environmental law, as if these were purely neutral and technical obligations, but to engage critically with these frameworks, identifying where they serve Bangladesh's interests and where they do not, advocating for reforms that better reflect the interests of developing coastal states, and designing domestic legal frameworks that implement international obligations in ways that maximise Bangladesh's policy space and serve its social and ecological objectives.

The postcolonial legal theory, as developed by TWAIL scholars and applied to the law of the sea by researchers including Surabhi Ranganathan in her work on the history of the Bay of Bengal legal framework, draws attention to the colonial genealogy of international maritime law and the ways in which this history continues to shape the distribution of power and benefits in the contemporary system. For Bangladesh, this perspective is not merely abstract theory; it is a reminder of the historical context of dispossession and exploitation in which the nation's maritime legal situation is embedded, and it provides a basis for insisting that the reform of international maritime law must address these historical injustices rather than simply extending the existing system to newly independent states.

10.3 Habermasian Communicative Action and Democratic Legitimacy in Maritime Governance

Jurgen Habermas's theory of communicative action and discourse ethics, developed in Theory of Communicative Action published in 1981 and Between Facts and Norms published in 1992, provides a procedural framework for legitimate governance decisions that is directly relevant to the design of participatory processes in maritime governance reform. For Habermas, the legitimacy of legal and political decisions depends not on their conformity with any particular substantive principle but on the quality of the deliberative process through which they are made. A decision is legitimate if it could be agreed to by all affected parties in an ideal deliberative process characterised by equal participation, rational argumentation, and freedom from coercion.

Habermas's framework has been applied to environmental governance by scholars including Jens Newig and Oliver Fritsch, who have examined the conditions under which participatory environmental governance processes produce more legitimate and more effective outcomes than technocratic or hierarchical processes. Their research suggests that participation enhances legitimacy when it is genuinely inclusive, when the power asymmetries among participants are addressed, when the information available to all parties is adequate and accurate, and when participants have genuine influence over outcomes. These conditions are rarely fully met in practice, but they provide a standard against which existing participatory processes can be evaluated and reformed.

For Bangladesh's maritime governance reform, the Habermasian framework suggests that the legitimacy and effectiveness of reform depends critically on the design of participation processes that genuinely include the voices of the most affected and least powerful stakeholders, particularly the small-scale fishing communities whose livelihoods are most directly at stake. The standard participation processes used in Bangladeshi public administration, including public hearings and comment periods, are typically inadequate for ensuring genuine participation by poor and marginalised coastal communities, who lack the education, the organisational capacity, the time, and the political connections needed to engage effectively with formal administrative processes. Specific measures to address these barriers, including community liaison programmes, support for fishing community organisations, and requirements for decision-makers to demonstrate that they have meaningfully engaged with community views, should be statutory requirements in the maritime governance reform legislation.

CHAPTER ELEVEN: THE ROLE OF THE JUDICIARY IN MARITIME LAW DEVELOPMENT

11.1 Bangladesh's Judiciary and Maritime Law

The development of Bangladesh's maritime law is not solely a legislative project; it is also a judicial one. The courts of Bangladesh play an important role in interpreting and applying maritime legislation, in resolving disputes between maritime operators and between operators and the state, in enforcing environmental protection standards, and in developing the common law principles that supplement statutory maritime law. The quality of judicial reasoning in maritime cases, and the extent to which judges engage with international maritime law in their

domestic decision-making, have significant implications for the effectiveness of the maritime legal framework.

Bangladesh's High Court Division and Appellate Division have jurisdiction over maritime matters under the Admiralty Court Act of 2000, which established the Admiralty Court and vested it with admiralty jurisdiction to entertain and try admiralty cases. The Admiralty Court has jurisdiction over claims arising from the use or hire of a vessel, for loss of or damage to goods carried in a vessel, for loss of life or personal injury from or in connection with the operation of a vessel, for damage done by a vessel, for salvage, for towage, for pilot age, for goods supplied to a vessel for operation or maintenance, and for other maritime claims.

The development of maritime case law in Bangladesh has been limited by the relatively small volume of reported maritime decisions, by the limited exposure of the judiciary to international maritime law developments, and by the absence of dedicated maritime courts with specialist expertise comparable to the Admiralty courts in the United Kingdom or the specialised maritime chambers in Germany, France, and other major maritime jurisdictions. The creation of a dedicated maritime bench within the High Court Division, staffed by judges with specific training and expertise in maritime law, would significantly improve the quality of maritime judicial decision-making and would promote the development of a coherent body of maritime case law.

The interplay between domestic judicial decision-making and the international law of the sea is a particularly important dimension of judicial reform. Bangladesh courts are frequently called upon to apply provisions of the Merchant Shipping Ordinance, the Admiralty Court Act, and other maritime legislation that reflect or implement UNCLOS obligations. The quality of these decisions depends in part on the extent to which judges are familiar with the UNCLOS framework, the decisions of ITLOS and other international maritime tribunals, and the academic commentary on international maritime law. Judicial education programmes, specifically designed to familiarise maritime judges with the international framework, are an important element of the capacity building agenda for maritime law reform.

11.2 The Role of Environmental Courts in Marine Environmental Governance

The environmental dimensions of maritime governance raise questions about the appropriate judicial forum for the resolution of environmental disputes in maritime contexts. In Bangladesh, the National River Conservation Commission and the environmental courts established under the Environment Court Act of 2010 have jurisdiction over certain categories of environmental disputes, but their relationship to maritime environmental governance is not clearly defined.

The international experience with specialised environmental courts and tribunals, reviewed in the UNEP Global Judicial Institute on the Environment and in academic studies by Lin Heng Lye and others, suggests that specialised courts can develop higher quality environmental jurisprudence than generalist courts, provided they are adequately resourced and staffed by judges with appropriate expertise. The National Green Tribunal of India, established by the National Green Tribunal Act of 2010, provides a model of specialised environmental adjudication that has generated a substantial and often innovative body of environmental

jurisprudence, including decisions on marine environmental issues in Indian coastal and maritime areas.

For Bangladesh, the creation of specialised environmental jurisdiction that extends to maritime areas, either through the expansion of the existing environment court framework or through the creation of a dedicated maritime environment tribunal, would improve the quality of environmental enforcement and the development of environmental jurisprudence in the maritime context. Such a tribunal should have jurisdiction over cases involving marine pollution, harm to marine ecosystems, violations of marine protected area regulations, and unlawful fishing in marine protected areas, among other categories of maritime environmental offence.

CHAPTER TWELVE: THE COMPREHENSIVE LEGISLATIVE PROGRAMME FOR MARITIME REFORM

12.1 The Legislative Gap Analysis

A comprehensive assessment of Bangladesh's maritime legislative framework reveals a series of gaps between current law and the standard of comprehensive, modern maritime governance required by international obligations and by the practical needs of Bangladesh's blue economy development. This analysis provides a structured overview of the principal legislative gaps that must be addressed in a comprehensive reform programme.

The first category of gaps consists of wholly absent legislation. There is no Marine Spatial Planning Act. There is no comprehensive Blue Economy Act. There is no Offshore Safety Act governing the safety and environmental standards for offshore hydrocarbon and energy installations. There is no Marine Protected Areas Act providing a specific statutory framework for the designation and management of protected marine areas. There is no Maritime Cybersecurity Act. And there is no comprehensive fisheries reform legislation to replace the inadequate Marine Fisheries Ordinance of 1983.

The second category consists of legislation that exists but is inadequate. The Territorial Waters and Maritime Zones Act, as amended in 2021, addresses the zonal framework but leaves critical gaps in environmental governance, enforcement, and the governance of new maritime activities. The Merchant Shipping Ordinance addresses shipping but does not adequately reflect the current state of international maritime safety and labour standards. The Bangladesh Coast Guard Act provides the framework for maritime law enforcement but does not adequately address the full range of enforcement scenarios in the EEZ and on the continental shelf.

The third category consists of legislation that is adequate in formal terms but inadequately implemented and enforced. The environmental provisions of the Environmental Conservation Act are relevant to marine pollution but are not effectively applied in the maritime context. The fisheries licensing provisions of the Marine Fisheries Ordinance are formally adequate to regulate fishing but are not enforced effectively, resulting in widespread IUU fishing.

12.2 The Proposed Legislative Programme

Based on the analysis throughout this Part and the broader commentary in this treatise, the following legislative programme is recommended for Bangladesh's comprehensive maritime law reform:

First, the enactment of a Marine Spatial Planning Act establishing the legal framework for integrated ocean governance and spatial allocation of maritime space. This legislation should be the first priority, as it provides the overarching framework within which all sectoral maritime governance operates.

Second, the enactment of a Blue Economy and Ocean Governance Act, establishing the Blue Economy Authority and providing the overarching institutional and strategic framework for Bangladesh's maritime development. This legislation should define the objectives of the blue economy, establish the institutional architecture for its governance, and provide for the coordination mechanisms needed to connect the Blue Economy Authority to the existing sectoral agencies.

Third, the comprehensive reform of the Marine Fisheries Ordinance, replacing it with a Marine Fisheries Act that incorporates modern fisheries management science, the precautionary approach, the ecosystem approach, and the rights-based approach to fisheries governance. This legislation should provide for the development of fisheries management plans, the use of scientific advice in management decision-making, the protection of small-scale fishers' access rights, and effective mechanisms for monitoring and enforcement.

Fourth, the enactment of an Offshore Safety and Environmental Protection Act, establishing comprehensive safety and environmental standards for offshore hydrocarbon and energy operations, creating an independent offshore safety regulator, and providing for effective enforcement and liability mechanisms.

Fifth, the enactment of a Marine Protected Areas Act, providing the statutory framework for the designation and management of protected marine areas in Bangladesh's territorial sea, EEZ, and continental shelf.

Sixth, the reform of the Merchant Shipping Ordinance to fully implement the MLC 2006 and other current IMO instruments, including the International Ballast Water Management Convention, the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, and the IMO's MASS regulatory framework.

Seventh, the enactment of a Maritime Cybersecurity Act, establishing the legal framework for cybersecurity obligations in the maritime sector, including standards for vessels, port facilities, and navigation systems, and a maritime cyber incident reporting system.

Eighth, the ratification and domestic implementation of the ILO Work in Fishing Convention (C188), providing minimum labour standards for fishing vessel crew.

Ninth, the ratification of the BBNJ Agreement and the enactment of implementing legislation establishing the domestic framework for its provisions on environmental impact assessment, area-based management tools, and benefit sharing from marine genetic resources.

Tenth, the enactment of a Maritime Revenue Governance Act, establishing the framework for transparent and accountable management of revenues from offshore resource development, including provisions for a sovereign wealth fund or equivalent mechanism and for the distribution of benefits to coastal communities.

12.3 Implementation Challenges and Strategies

The enactment of comprehensive maritime legislation is a necessary but not sufficient condition for effective maritime governance. The implementation of legislation, including the development of regulations and administrative procedures, the building of institutional capacity, the deployment of enforcement resources, and the development of a culture of compliance among maritime operators, presents challenges that are in many respects more difficult than the legislative drafting itself.

Bangladesh's legislative implementation challenges are well-documented in the administrative law and public administration literature. The gap between formal legal obligations and practical implementation is a persistent feature of governance in Bangladesh, affecting not only maritime law but virtually all areas of regulatory governance. The causes include limited institutional capacity, inadequate resources, political interference in regulatory decisions, the influence of powerful private interests, and limited civil society monitoring and accountability mechanisms.

Addressing these implementation challenges requires a multi-dimensional strategy that goes beyond legislative reform. The strategy must include investment in the human resources of maritime governance institutions, through recruitment and training of qualified personnel, competitive compensation to reduce the incentive for corruption, and the development of a professional culture of public service in maritime agencies. It must include the development of information systems, including vessel monitoring, catch reporting, environmental monitoring, and financial reporting systems, that provide the data needed for evidence-based management decisions and that create audit trails for accountability purposes. It must include strengthening civil society monitoring and advocacy organisations, which can provide independent oversight of maritime governance and public pressure for compliance and accountability. And it must include international engagement and cooperation, both to access the technical assistance and capacity building resources available through international organisations and to create the external accountability mechanisms that can reinforce domestic accountability.

The political economy of maritime governance reform in Bangladesh is complex and cannot be ignored. The maritime sector is dominated by powerful interests, including the owners of large fishing fleets, the management of port authorities and state-owned enterprises, the foreign oil companies operating production sharing contracts, and the political networks connected to these interests. Any serious reform effort will encounter resistance from these interests, and the design of the reform process must anticipate and manage this resistance. This requires building a broad coalition in favour of reform, including not only the immediate beneficiaries of reform such as

fishing communities and environmental organisations, but also the business community interests that benefit from improved governance, including the shipping and logistics sector that benefits from well-managed ports and navigational safety, the seafood export sector that benefits from credible sustainability certification, and the domestic energy companies that benefit from a transparent and stable hydrocarbon licensing framework.

CHAPTER THIRTEEN: REGIONAL GOVERNANCE, BIMSTEC, AND THE FUTURE OF BAY OF BENGAL LAW

13.1 The Bay of Bengal as a Legal Space: Regional Governance Imperatives

The Bay of Bengal is not merely a collection of national maritime zones; it is a shared ecological and economic system whose governance challenges cannot be effectively addressed by any single state acting alone. The management of shared fish stocks, the prevention of transboundary marine pollution, the response to maritime disasters and oil spills, the coordination of maritime security operations, the governance of maritime trade logistics, and the adaptation to climate change all require coordinated action among the Bay of Bengal states.

The legal framework for regional governance of the Bay of Bengal is fragmented and underdeveloped. BIMSTEC provides the principal institutional framework for regional cooperation, but its maritime governance agenda has been limited in scope and slow in development. The Indian Ocean Rim Association (IORA), of which Bangladesh is a member, provides a broader but also thinner institutional framework for Indian Ocean governance. The Bay of Bengal Large Marine Ecosystem Programme (BOBLME), implemented under the auspices of the FAO with funding from the Global Environment Facility, provides a science-based framework for the management of the Bay's living resources, but it is a technical assistance programme rather than a governance institution.

The case for a dedicated Bay of Bengal regional governance framework, analogous to the Helsinki Commission (HELCOM) for the Baltic Sea or the OSPAR Commission for the Northeast Atlantic, is strong. Such a framework would provide a permanent institutional home for regional maritime governance, a platform for the coordination of national policies on fisheries, environment, shipping, and maritime safety, and a mechanism for the management of shared resources and shared risks. Bangladesh, as the host of the BIMSTEC secretariat and as the country with the most comprehensive interests in Bay of Bengal governance, is well positioned to champion the development of such a framework.

13.2 The BIMSTEC Maritime Transport Agreement: Implementation and Beyond

The BIMSTEC Agreement on Maritime Transport Cooperation (AMTC), adopted at the sixth BIMSTEC Summit and first ratified by India in 2025, represents the most significant advance in regional maritime governance in the Bay of Bengal in recent years. The Agreement aims to enhance maritime connectivity, facilitate trade, improve port efficiency, and promote the development of the blue economy among BIMSTEC members.

The implementation of the AMTC requires domestic legislative action in all BIMSTEC member states to give legal effect to its provisions. In Bangladesh's case, the relevant legislation includes the Merchant Shipping Ordinance, the Customs Act, and the port governance legislation, all of which need to be reviewed for consistency with the AMTC's requirements on port access, vessel documentation, and trade facilitation. The Bangladesh government should develop a specific legislative and regulatory action plan for AMTC implementation, with clear timelines and designated responsible agencies for each required action.

Beyond the AMTC, the BIMSTEC maritime governance agenda should be expanded to address fisheries management, marine environmental protection, maritime safety, and climate adaptation. Bangladesh should use its position as BIMSTEC host to champion an expanded regional maritime agenda that reflects the full range of blue economy and ocean governance challenges facing the Bay of Bengal states. This agenda should include proposals for a regional fisheries agreement, a regional marine pollution emergency response arrangement, and a regional maritime safety framework, all building on the foundation of the AMTC.

13.3 Bangladesh-India Maritime Relations: The Grey Area, St. Martin's Island, and Future Cooperation

The maritime relationship between Bangladesh and India is among the most important bilateral relationships in Bangladesh's maritime governance context. The conclusion of the PCA arbitration in 2014 resolved the formal maritime boundary dispute but left open several important questions, including the governance of the grey area and the cooperation needed for the management of shared maritime resources and ecosystems.

The grey area problem, analysed in earlier parts of this treatise, requires either a bilateral agreement on the respective rights and obligations of Bangladesh and India in this area, or a unilateral approach by each country based on its own interpretation of its rights. The bilateral agreement approach is preferable, both because it reduces the risk of conflict and because it provides a stable legal framework for resource development activities by both states in the area. The development of a bilateral grey area management agreement, possibly modelled on the joint development zone arrangements used in other maritime boundary contexts, should be a priority in Bangladesh-India maritime diplomacy.

The cooperation on Sundarbans management, hilsa conservation, and coastal climate adaptation are areas where the bilateral relationship is underdeveloped relative to the shared interests of both countries. The development of a Bangladesh-India Bay of Bengal Cooperation Framework, which would bring together all the major dimensions of the bilateral maritime relationship in a comprehensive strategic framework, could provide the institutional basis for more effective cooperation on these and other shared maritime governance challenges.

CHAPTER FOURTEEN: CLIMATE JUSTICE, LOSS AND DAMAGE, AND BANGLADESH'S MARITIME LEGAL RIGHTS

14.1 The Emerging International Framework for Climate Justice

The 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion on states' climate obligations have collectively generated a new legal framework for climate justice that is of direct and profound relevance to Bangladesh. These opinions, taken together, establish that anthropogenic greenhouse gas emissions constitute a form of legally cognisable harm, that states have legally binding obligations to prevent, reduce, and control such emissions, that these obligations are not satisfied merely by compliance with the Paris Agreement, and that states whose marine environments have been damaged by climate change have legal rights that can be invoked against responsible emitting states.

For Bangladesh, this new legal framework is an opportunity of historic significance. Bangladesh has been a leading voice in international climate diplomacy for three decades, consistently calling for more ambitious emissions reduction commitments from developed countries and for adequate finance and compensation for loss and damage in vulnerable developing countries. The new judicial framework provides legal teeth to what have previously been primarily political and moral arguments. Bangladesh can now invoke its rights under UNCLOS, as interpreted by the ITLOS Advisory Opinion, in support of claims against major emitting states for their failure to take all necessary measures to prevent marine pollution from greenhouse gas emissions.

The practical use of this legal framework requires careful strategic thinking. The ITLOS Advisory Opinion is advisory, not binding, and does not by itself create enforceable rights for Bangladesh against specific emitting states. To translate the opinion into legally enforceable claims, Bangladesh would need to initiate dispute settlement proceedings under UNCLOS against specific states, arguing that their failure to reduce emissions violates their obligations under Part XII of UNCLOS. The prospects for success in such proceedings are uncertain, and the process would be complex and expensive. But the legal framework now exists, and its availability changes the political dynamics of international climate negotiations by creating a credible legal threat that reinforces diplomatic pressure.

The loss and damage framework, which was established as a formal element of the international climate governance system at COP27 in Sharm el-Sheikh in 2022 with the creation of a fund for loss and damage, and further developed at COP28 in Dubai in 2023 and COP29 in 2024, provides a complementary mechanism for addressing the economic impacts of climate change on vulnerable countries. Bangladesh has been one of the strongest advocates for an adequate and accessible loss and damage mechanism, and the development of this framework represents a partial vindication of Bangladesh's long-standing diplomatic position. The legal basis for loss and damage finance, including whether it is a matter of legal liability or of solidarity and equity, remains contested, but the new judicial opinions strengthen the case for a liability-based approach.

14.2 Sea-Level Rise, Statehood, and Bangladesh's Future

The most profound and existential dimension of climate change for Bangladesh is the prospect of significant sea-level rise, which threatens not only specific coastal areas but potentially the viability of large parts of the country's inhabited territory. Scientific projections of sea-level rise

under current emissions trajectories range from approximately 0.5 to 1 metre by 2100 under moderate scenarios to 1.5 to 2 metres under high emissions scenarios, with the possibility of higher rises if ice sheet instabilities are triggered. For Bangladesh, with its extraordinarily flat and low-lying deltaic coast, even moderate sea-level rise will have severe consequences.

The question of what happens to Bangladesh's maritime zones, and indeed to its status as a state, if significant portions of its coastal territory become permanently submerged is one of the most important and least resolved questions in contemporary international law. The traditional doctrine of baselines holds that the baseline from which maritime zones are measured shifts as the coastline changes, meaning that a rising sea would reduce Bangladesh's territorial sea and EEZ to the extent that the coast recedes. This would represent not merely an environmental catastrophe but a legal one: a loss of sovereign territory and resource rights that adds legal injustice to ecological injury.

The international legal community has been wrestling with this problem in the context of the small island states that face the prospect of complete submergence, through the work of the International Law Commission on sea-level rise and international law and through the work of COSIS and other advocacy bodies. The emerging norm, supported by a growing number of states and scholars, is that basepoints and baselines should be stabilised at their current positions regardless of sea-level rise, protecting the maritime zones of affected states against the legal consequences of physical submergence. Several states, including Tuvalu, Kiribati, and the Maldives, have enacted domestic legislation declaring their maritime boundaries to be permanently fixed regardless of changes in the physical coast.

Bangladesh should adopt a similar approach, enacting domestic legislation that fixes its baselines and maritime zone limits at their current positions and declaring its intention to maintain these as its legal maritime boundaries regardless of future physical changes to the coastline resulting from sea-level rise. This legislative action, combined with active engagement in the international legal process to establish the stabilisation norm as international customary law, would protect Bangladesh's legal rights in the most serious scenario of climate change impacts on its maritime territory.

CHAPTER FIFTEEN: SYNTHESIS AND PROSPECTUS FOR A MARITIME BANGLADESH

15.1 The Integrated Vision

The argument of this Part, and of the entire treatise of which it is a part, has been building toward an integrated vision of what a reformed maritime legal framework for Bangladesh should look like and why it matters. Let this final chapter draw together the threads.

Bangladesh stands at a moment of extraordinary significance in its maritime history. For the first time in the nation's existence, it has clearly defined maritime boundaries, a legally established maritime territory of 118,813 square kilometres, and a body of international legal authority that

supports both its rights over maritime resources and its claims against the states responsible for climate change impacts on its marine environment. It has a growing body of maritime legal scholarship, a community of practitioners with experience in international maritime arbitration, and a state apparatus with at least some experience in maritime governance. And it has the motivation of a blue economy aspiration that, if realised justly and sustainably, could contribute enormously to the welfare of millions of Bangladeshis.

But Bangladesh also stands at a moment of severe risk. The marine environment of the Bay of Bengal is under acute ecological stress from overfishing, pollution, habitat destruction, and above all from the accelerating impacts of climate change. The legal framework for maritime governance is fragmented, inadequate, and inconsistently implemented. The institutional architecture for ocean governance is not fit for purpose. The rights of small-scale fishing communities and coastal populations are insufficiently protected. And the international pressures of climate change, sea-level rise, and competitive resource exploitation are creating challenges that will worsen with each passing year.

The integrated vision that this treatise advocates is one in which Bangladesh develops a comprehensive, coherent, and effective maritime governance system that is simultaneously legally sound by the standards of international maritime law, ecologically sustainable by the standards of marine science, economically productive in terms of the blue economy development agenda, and socially just in terms of the protection of the rights of coastal communities and the equitable distribution of maritime benefits. This vision requires action on all the fronts analysed in this Part and in the preceding sixteen parts: marine spatial planning, integrated institutional governance, fisheries reform, environmental protection, offshore safety, digital transformation, climate justice, regional cooperation, and judicial development.

15.2 The Political Economy of Reform: Building the Coalition

The comprehensive maritime law reform envisioned in this treatise is a large-scale political project as much as a legal one. It requires building a political coalition that can sustain reform efforts across multiple legislative cycles, against the resistance of powerful vested interests, and in the face of the day-to-day pressure of other governance priorities. The design of this coalition-building strategy is ultimately the task of political actors, but legal scholars and commentators can contribute by making the case for reform in terms that resonate with different constituencies.

The case for fisheries reform resonates with the fishing communities that are directly experiencing the consequences of declining fish stocks and inadequate legal protection. The case for offshore safety regulation resonates with the workers in the offshore hydrocarbon sector and with the coastal communities that would bear the consequences of a major oil spill. The case for climate justice resonates with the rural communities experiencing the impacts of cyclones, coastal erosion, and saline intrusion. The case for revenue governance reform resonates with civil society organisations concerned about transparency and corruption. And the case for digital maritime transformation resonates with the technology sector and the maritime industry organisations that stand to benefit from modernised regulatory frameworks.

The academic and legal community in Bangladesh has a crucial role to play in this coalition-building. The Bangladesh Centre for Ocean Law and Policy, the Bangladesh Maritime Law Society, the maritime law faculties of Dhaka University and Chittagong University and Bangabandhu Sheikh Mujibur Rahman Maritime University, and the growing community of maritime legal scholars and practitioners represent a significant intellectual resource that should be mobilised in support of comprehensive maritime law reform. Academic advocacy, policy analysis, legislative drafting support, public education, and international engagement are all forms of contribution that this community can make to the reform agenda.

The international community, including multilateral institutions like the IMO, the FAO, the World Bank, and UNDP, bilateral donors like Japan, the European Union, the United Kingdom, and the United States, and civil society organisations like the Environmental Defense Fund, the Ocean Foundation, and the World Wildlife Fund, represents a source of both technical assistance and financial resources for maritime law reform. Bangladesh's impressive track record of international legal advocacy, demonstrated in its successful ITLOS and PCA proceedings, gives it credibility in international forums and should be leveraged to attract the international support needed for comprehensive domestic reform.

15.3 The Legacy of Maritime Bangladesh

This treatise began with the observation that the sea is a dimension of national destiny for Bangladesh. That observation has been elaborated across seventeen Parts through the full depth of legal, historical, philosophical, and political analysis. The final message of this Part, and a bridge to the three remaining Parts of the treatise, is that national destiny is not fixed. It is shaped by the choices that nations make about how to govern themselves and their resources.

Bangladesh's maritime destiny can unfold in two very different ways. In one trajectory, the current deficiencies of the legal and governance framework persist, the marine ecosystems of the Bay of Bengal continue to degrade, the rights of small-scale fishing communities continue to be inadequately protected, the revenues from offshore hydrocarbon development continue to be poorly managed, and the promise of the blue economy remains largely unrealised. In this trajectory, Bangladesh continues to be a maritime nation that fails to use the sea well.

In another trajectory, the comprehensive reform programme advocated in this treatise is implemented, the Blue Economy Authority is established and functions effectively, the Marine Spatial Planning Act creates a rational and equitable framework for the allocation of maritime space, the reformed fisheries legislation restores fish stocks to healthy levels and protects the rights of small-scale fishers, the offshore safety framework prevents catastrophic accidents and manages environmental risks, the climate justice advocacy produces meaningful international accountability and domestic adaptation, and the blue economy develops in a manner that genuinely improves the welfare of the millions of Bangladeshis who live and work in the coastal zone.

The difference between these trajectories is not predetermined. It depends on the quality of legal thought, on the effectiveness of institutional design, on the commitment of political leadership, on the engagement of civil society, and on the dedicated work of the legal reformers, academic

scholars, government officials, and community advocates who are the intended audience of this treatise. The law of the sea can be made better, more just, and more ecologically sound. Bangladesh's place in that better law is not yet secured. But the materials for building it are available, the arguments have been made, and the moment, as the chapters of this Part have demonstrated, is as urgent as any that Bangladesh has faced in its maritime history.

The ocean is not merely a resource. It is not merely a boundary. It is not merely a space for commerce and competition. It is a living system, and it is part of the living identity of Bangladesh. To govern it well is to honour that identity, to protect the livelihoods of those who depend upon it, to fulfil the obligations that international law has established, and to leave it in a condition that the generations who follow will be able to use and value. That is the aspiration of maritime legal reform. That is the standard against which the commentary in this treatise must ultimately be judged.

CONCLUDING OBSERVATIONS ON PART SEVENTEEN

Part Seventeen has traversed an enormous intellectual landscape, moving from the theoretical foundations of marine spatial planning through the detailed architecture of integrated ocean governance, the legal challenges of digital maritime transformation, the social justice dimensions of fisheries reform and seafarers' rights, the complexities of offshore hydrocarbon governance, the emerging jurisprudence of deep seabed law, the philosophy of maritime legal reform, the role of the judiciary in maritime development, the comprehensive legislative programme for reform, the imperatives of regional governance, and the profound challenge of climate justice and sea-level rise.

The consistent argument throughout has been that Bangladesh's maritime governance situation, while significantly improved by the legal victories of the ITLOS and PCA proceedings and by the 2021 legislative amendments, remains deeply inadequate to the demands of the twenty-first century maritime legal environment. The gaps in the domestic legal framework are not technical inconveniences; they are governance failures with real consequences for the welfare of millions of Bangladeshis and for the ecological health of the Bay of Bengal. Addressing these gaps requires not merely legislative drafting but a comprehensive reimagining of the institutional, financial, political, and cultural conditions of maritime governance.

The theoretical traditions explored in this Part, from Rawlsian justice to Habermasian communicative ethics, from critical legal geography to constructivist international relations theory, from positivist jurisprudence to TWAIL scholarship, all converge on the same practical conclusion: that the governance of the sea must be understood as a project of justice, not merely of efficiency or compliance. Bangladesh's maritime legal reform must be designed to produce a just distribution of maritime benefits and risks, a just protection of the rights of coastal communities and future generations, and a just relationship between Bangladesh and the international community on the questions of climate accountability and ocean governance.

The Parts that follow will continue this analysis, addressing the remaining dimensions of maritime legal reform and building toward the synthesis and policy recommendations that will constitute the final Part of this treatise. The journey is not finished. The ocean has not yielded all its secrets. The law has not settled all its questions. And Bangladesh's engagement with both is still in its most important chapter.

This Part is dedicated to the fishing communities of Bangladesh's coast, whose patience, courage, and resilience in the face of ecological degradation, governance failure, and climatic injustice represent the moral ground on which all the legal argument of this treatise ultimately rests. Their right to a just and sustainable governance of the sea they depend upon is not merely a legal entitlement. It is a claim of human dignity.

END OF PART SEVENTEEN

PART EIGHTEEN

THE INTERNATIONAL MARITIME ORGANIZATION, FLAG STATE RESPONSIBILITY, MARITIME LABOUR LAW, ADMIRALTY JURISDICTION, LIMITATION OF LIABILITY, SALVAGE, WRECK REMOVAL, MARINE INSURANCE, AND THE INSTITUTIONAL ARCHITECTURE OF GLOBAL SHIPPING GOVERNANCE: BANGLADESH'S LEGISLATIVE CHALLENGES AND REFORM IMPERATIVES

A COMMENTARY ON THE JURISPRUDENTIAL, PHILOSOPHICAL, HISTORICAL, AND TECHNICAL DIMENSIONS OF MARITIME SHIPPING LAW FROM THE BANGLADESH PERSPECTIVE

PREFACE TO PART EIGHTEEN

The preceding parts of this commentary have traversed the foundational architecture of the international law of the sea, the philosophy and history of maritime sovereignty, the resolution of Bangladesh's maritime boundary disputes, the governance of fisheries and the marine environment, the emerging frameworks of marine spatial planning and digital maritime transformation, and the institutional challenges of integrated ocean governance. In all of this extensive jurisprudential and policy analysis, one domain has received mention but not sustained treatment, and it is a domain without which no serious commentary on the law of the sea can claim completeness. That domain is the body of law that governs the ship itself: the vessel as a legal object, the shipowner as a subject of rights and obligations, the seafarer as a rights-bearing worker whose daily life is regulated by a complex architecture of international and domestic law, the cargo as a subject of contractual and tortious rights running among shippers, carriers, and

insurers, and the maritime casualty as an event that triggers the most ancient and most technically sophisticated system of liability and compensation known to any body of law.

This body of law, variously described as shipping law, maritime law, admiralty law, and the law of the sea in its private dimension, is not merely a technical specialty of interest to practitioners. It is a fundamental dimension of Bangladesh's position in the world economy and in the global maritime order. Bangladesh is one of the world's most important labour-supplying states for the international shipping industry, with tens of thousands of Bangladeshi seafarers serving on vessels flying the flags of dozens of states. Bangladesh is one of the world's most significant ship recycling nations, with its beach breaking industry at Chittagong representing a major element of national industrial activity and employment even as it remains the subject of profound environmental and human rights controversy. Bangladesh is a major maritime trading nation, whose economy depends on the uninterrupted flow of imports and exports through the port of Chittagong and, increasingly, through the new Matarbari deep-sea terminal. And Bangladesh is the flag state for a modest but growing fleet of nationally registered vessels, carrying with it the full weight of international flag state obligations under the web of IMO conventions and codes.

Yet Bangladesh's domestic legal framework for this dimension of maritime law, the private and institutional law of shipping, is widely regarded as among the most inadequate and outdated in the region. The Merchant Shipping Ordinance of 1983 remains the primary domestic instrument, a relic of the military government era that predates many of the most significant developments in international shipping law, including the adoption of the Maritime Labour Convention, the entry into force of the Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships, the development of the IMO's GHG strategy, and the revolutionary changes in liability, salvage, and wreck removal frameworks that have occurred since the early 1990s. The gap between Bangladesh's international obligations and its domestic legal reality is nowhere more acute than in the domain of shipping law.

Part Eighteen addresses this domain in depth. It begins with an analysis of the International Maritime Organization as the principal international lawmaking institution for shipping and its relationship with Bangladesh as a member state. It proceeds through the philosophical and jurisprudential foundations of flag state responsibility, the architecture of SOLAS and maritime safety law, the complex and contested regime of MARPOL and marine pollution prevention, the rights of seafarers under the Maritime Labour Convention and its 2022 and 2025 amendments, the structure of admiralty jurisdiction and maritime torts, the controversial doctrine of limitation of liability, the ancient and practically vital law of salvage and wreck removal including the Nairobi Convention, the sophistication of marine insurance, and the deeply troubling situation of Bangladesh's ship recycling industry in the era of the Hong Kong Convention. Throughout, the commentary maintains the jurisprudential, philosophical, comparative, and politically engaged character of the broader work, drawing on the insights of legal positivism, natural law, critical legal theory, and political philosophy to illuminate the structures and controversies of a body of law that is simultaneously ancient and urgently contemporary.

CHAPTER ONE: THE INTERNATIONAL MARITIME ORGANIZATION: ARCHITECTURE, AUTHORITY, AND BANGLADESH'S ENGAGEMENT

1.1 The Historical Origins and Constitutional Framework of the IMO

The International Maritime Organization occupies a position in the governance of international shipping that is without parallel in any other sector of global economic activity. It is the United Nations' specialised agency responsible for the safety, security, and environmental performance of international shipping, and its regulatory output, in the form of binding conventions, codes, and guidelines, constitutes the most comprehensive body of international regulatory law in any sector of the global economy. Understanding the IMO's constitutional structure, its lawmaking processes, its relationship with member states, and its theoretical foundations is essential for any serious analysis of Bangladesh's position in the global maritime order.

The IMO was established by a Convention signed in Geneva in 1948, under the name the Inter-Governmental Maritime Consultative Organization (IMCO), and came into existence in 1958 following the deposit of the twenty-first ratification. It was renamed the International Maritime Organization in 1982. Its headquarters are in London, a choice that reflects the historical dominance of British maritime law and practice in the development of the international shipping industry and that continues to influence the institutional culture and legal traditions of the organization.

The IMO's constitutional framework, established by the 1948 Convention as subsequently amended, vests governance authority in an Assembly of all member states, which meets biennially and sets the overall direction of the organization's work, a Council of forty member states that serves as the governing body between Assembly sessions, and a number of technical committees whose work constitutes the substantive regulatory activity of the organization. The most important of these committees are the Maritime Safety Committee (MSC), which is responsible for the development of safety standards and regulations including the SOLAS Convention and the ISM Code, and the Marine Environment Protection Committee (MEPC), which is responsible for the development of environmental standards and regulations including MARPOL and the IMO's GHG strategy. The Legal Committee (LEG) handles legal matters including liability and compensation frameworks. The Facilitation Committee (FAL) deals with the simplification of formalities in international maritime traffic.

The IMO's lawmaking process is, in theoretical terms, a form of international treaty law: the regulatory instruments developed through the IMO's committee process take the form of international conventions, protocols, codes, and guidelines, which acquire binding force through the deposit of ratifications by member states in accordance with their constitutional procedures. However, the practical reality is significantly more complex. The IMO has developed an innovative series of tacit acceptance procedures for the amendment of certain conventions and codes, most notably SOLAS and MARPOL, under which amendments come into force unless a specified proportion of parties object within a specified period. This procedure has dramatically accelerated the pace of regulatory development, allowing the IMO to respond to maritime accidents and evolving technological and environmental challenges more quickly than would be possible through the traditional explicit ratification process.

The jurisprudential implications of the tacit acceptance procedure deserve careful analysis. From a strict consent-based theory of international law, the binding force of international obligations requires the explicit consent of states, expressed through the ratification process with its attendant constitutional formalities. The tacit acceptance procedure modifies this requirement: a state that has ratified a convention with tacit acceptance amendment procedures finds itself bound by amendments that it has not explicitly consented to, provided only that it has not actively objected within the specified period. This is a significant modification of the voluntarist theory of international legal obligation, and it has been debated by international legal scholars. The IMO has defended the procedure as practical necessity, arguing that the size and technical complexity of the international shipping industry require a responsive and efficient regulatory process that the traditional explicit ratification approach cannot provide. The ICJ has not directly addressed the constitutional implications of tacit acceptance procedures, but the widespread acceptance of these procedures by IMO member states over several decades has given them considerable legitimacy as a matter of state practice.

The IMO's relationship with industry actors, particularly the International Chamber of Shipping (ICS), BIMCO, the International Association of Classification Societies (IACS), and the International Transport Workers' Federation (ITF), is a distinctive and often controversial feature of its governance structure. These organizations hold consultative status with the IMO and participate actively in its committee and subcommittee processes, proposing amendments, providing technical expertise, and shaping the development of regulatory instruments. The extent to which this industry participation enhances the quality and practical effectiveness of IMO regulation, by incorporating the knowledge and experience of those who design, operate, and maintain ships, or compromises the independence and public interest orientation of the regulatory process, by giving disproportionate influence to the commercial interests of shipowners and operators, is a question that has been debated by scholars of international regulatory theory and by critics of the IMO's environmental performance.

The critical legal studies perspective on the IMO, as applied by scholars including David Freestone and others working in the tradition of TWAIL and regulatory theory, suggests that the organization's institutional design systematically privileges the interests of major maritime trading nations and their shipping industries over the interests of developing maritime states, labour-supplying states, and coastal communities vulnerable to maritime pollution. The IMO's consensus-based decision making, while formally democratic in giving each member state one vote, operates in practice under conditions of significant inequality: states with large and powerful shipping industries, with well-resourced delegations in London, and with strong technical capacities in their maritime administrations, have far greater influence over the development of IMO regulations than small or developing states with limited resources and technical capacity. This structural inequality has important practical implications for states like Bangladesh.

1.2 Bangladesh as an IMO Member State: Engagement, Obligations, and Capacity Gaps

Bangladesh is a member of the IMO and has been since the early years of its independence. The IMO membership confers significant rights and obligations. As a member state, Bangladesh is entitled to participate in the IMO's Assembly, Council (subject to election), and committee and

subcommittee processes. It is entitled to access IMO technical assistance programmes, including the Integrated Technical Cooperation Programme (ITCP), which provides capacity building support to developing member states in areas including maritime administration, port state control, maritime safety, and environmental management. And it is entitled to rely on the global framework of IMO-harmonised standards and conventions as the basis for its own maritime regulatory system, benefiting from the investment of the international community in developing these standards.

Bangladesh's obligations as an IMO member state are extensive. It is a party to a large number of IMO conventions, including SOLAS, MARPOL Annexes I through VI, the International Convention on Standards of Training, Certification and Watchkeeping (STCW), the International Convention on Load Lines (LL), the International Regulations for Preventing Collisions at Sea (COLREGS), the International Convention on Tonnage Measurement of Ships (TONNAGE), the International Convention on Search and Rescue (SAR), and others. Each of these conventions creates specific obligations for Bangladesh as a flag state, as a port state, and as a coastal state, and each requires the development of domestic implementing legislation and the institutional capacity to administer and enforce it.

Bangladesh's engagement with the IMO has historically been limited by institutional capacity constraints. The Department of Shipping, which is the designated maritime administration of Bangladesh and the national focal point for IMO matters, has a relatively small staff of maritime officers and lacks the specialist technical expertise in areas such as classification, survey, environmental monitoring, and maritime security that effective IMO participation and compliance require. The Bangladesh Marine Academy, which provides training for Bangladeshi seafarers and maritime professionals, has in recent years made significant investments in training infrastructure and curriculum development, but the pipeline of technically qualified maritime professionals entering the government maritime administration remains insufficient for the comprehensive discharge of Bangladesh's IMO obligations.

The consequence of these capacity gaps is that Bangladesh's compliance with its IMO obligations is uneven. In areas where compliance is monitored through port state control, such as the SOLAS safety standards and the STCW requirements for seafarers' competency certificates, Bangladesh's performance has been acceptable though not outstanding, reflecting the pressure of international enforcement through detention of substandard ships. But in areas where compliance is primarily a matter of domestic implementation and enforcement, such as the environmental obligations under MARPOL Annex VI and the labour rights obligations under the Maritime Labour Convention, the implementation gap is significant.

The most visible and controversial manifestation of Bangladesh's engagement with the IMO in recent years has been the ongoing process of aligning Bangladesh's ship recycling industry with the requirements of the Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships, which entered into force in June 2025. This process, supported by the IMO's SENSREC project funded by the Norwegian government, has involved the development of draft amendments to Bangladesh's ship recycling legislation aimed at bringing the domestic framework into conformity with the Hong Kong Convention's requirements. The February 2025 workshop in Dhaka, at which these draft amendments were discussed with government and

private-sector stakeholders, represented a significant step forward, but the fundamental challenges of implementing the Convention's requirements in the conditions of the Bangladeshi shipbreaking industry, with its beach breaking methodology, its large and largely informal workforce, and its serious track record of accidents and environmental violations, remain formidable.

The IMO's GHG strategy, which has developed significantly in the period covered by this commentary, is creating new compliance challenges for Bangladesh. The IMO's 2023 GHG Strategy, adopted at MEPC 80 in July 2023, set ambitious targets including a reduction in international shipping's total annual GHG emissions by at least 20 percent, striving for 30 percent, compared to 2008 levels by 2030, by at least 70 percent, striving for 80 percent, by 2040, and reaching net zero GHG emissions by or around 2050. The mid-term measures adopted at MEPC 83 in April 2025, which are expected to be formally approved by April 2025 under the IMO's timeline, include a GHG Fuel Standard (GFS) and a carbon pricing mechanism. These measures will significantly affect the operating costs and competitive position of the vessels that call at Bangladesh's ports and will create new regulatory obligations for Bangladesh as a port state.

The carbon pricing mechanism, which will impose a charge on excess GHG emissions from ships using fuels that do not meet the evolving GFS requirements, will generate a revenue stream that the IMO intends to channel in part to developing member states to assist with the transition to cleaner shipping. The distribution of these revenues, and Bangladesh's eligibility for and capacity to access them, is an important issue that the Bangladesh maritime administration should be actively engaged with in the IMO's deliberations. The developing country correction factor that has been discussed in the context of the GFS, which would adjust the applicable GHG intensity requirements for ships serving developing country ports in recognition of the limited availability of alternative fuels in those ports, is another dimension of the IMO's GHG framework that directly affects Bangladesh's interests as a port state.

1.3 The Classification Society System and Its Relevance for Bangladesh

The system of classification societies is a fundamental feature of the international shipping governance architecture that is closely integrated with the IMO framework but constitutes a distinct institutional structure with its own history, theoretical foundations, and controversies. Classification societies are private organizations, most of them with origins in the nineteenth century marine insurance industry, that develop and publish technical standards for ship design, construction, and maintenance, conduct surveys of ships to verify compliance with these standards, and issue certificates of class confirming that surveyed ships meet the applicable standards. The classification system was originally developed to provide marine insurers with reliable information about the condition and seaworthiness of vessels seeking insurance cover, and the Lloyds Register, founded in 1760, is the oldest surviving example.

Classification societies now perform a dual function: they maintain their private commercial role in certifying ships for insurance and commercial purposes, and they perform a public regulatory function as Recognised Organisations (ROs) on behalf of flag state administrations, conducting statutory surveys and issuing the certificates required by IMO conventions on behalf of flag

states that have delegated this authority to them. The IACS, whose fourteen full member societies collectively class approximately 90 percent of the world's gross shipping tonnage, publishes unified requirements and recommendations that establish common standards across the major societies and provide the technical basis for many IMO requirements.

Bangladesh's engagement with the classification society system is significant in two respects. First, as a flag state, Bangladesh delegates the conduct of statutory surveys and the issuance of statutory certificates to recognised organisations, primarily the Indian Register of Shipping (IRS) and other IACS members. The quality of this delegation, including the terms of the agreements with ROs, the oversight of RO performance by the Bangladesh maritime administration, and the accountability mechanisms for RO failures, is a matter of ongoing concern in the context of flag state performance under SOLAS and related conventions. Second, as the world's most important ship recycling nation by volume, Bangladesh is engaged with the classification society system at the end of ship life, since the pre-recycling survey and the issuance of the Inventory of Hazardous Materials (IHM) required by the Hong Kong Convention are functions that must be performed by authorised surveyors, which in practice means classification society surveyors acting as recognised organisations.

The SN Corporation incident of 2024, in which an oil tanker explosion at a Chittagong shipyard killed six workers at a yard that had a Statement of Compliance with the Hong Kong Convention from ClassNK and yet was found to have engaged in severe negligence and inadequate hazardous waste management, illustrates the limitations of the classification society system as a guarantor of actual safety and environmental performance. The loss of SN Corporation's environmental clearance following this investigation was appropriate, but it raises broader questions about the reliability of certification and compliance verification systems in the conditions of Bangladesh's shipbreaking industry, and about the accountability of classification societies when their certificates fail to prevent catastrophic accidents.

1.4 Port State Control and Bangladesh's Position in the Paris and Tokyo MOUs

Port state control (PSC) is the system by which states exercise jurisdiction over foreign vessels visiting their ports to verify compliance with international maritime safety, labour, and environmental standards. The legal basis for PSC is found in SOLAS, MARPOL, the STCW Convention, the MLC, and other IMO and ILO instruments, which authorise port states to detain ships that fail to meet the applicable standards until deficiencies are corrected. PSC has evolved into a highly systematic and internationally coordinated regime, organised through regional memoranda of understanding (MOUs) that share information about ship inspections and detentions and coordinate targeting criteria.

Bangladesh is a member of the Indian Ocean MOU on Port State Control, which covers the states of the Indian Ocean region including India, Sri Lanka, Australia, and others. The Indian Ocean MOU conducts coordinated inspection campaigns, maintains a database of ship inspections and detentions, and publishes annual flag state performance reports that categorise flag states according to their deficiency and detention rates. Bangladesh's flag state performance in the Indian Ocean MOU has not been consistently strong, reflecting the technical capacity

limitations of the Bangladesh maritime administration and the mixed quality of the nationally registered fleet.

The Tokyo MOU, which covers the Asia-Pacific region and includes many of the states whose ports receive the largest share of internationally traded goods, is the most significant PSC regime for Bangladesh's shipping interests. Ships flying the Bangladesh flag and calling at ports in Tokyo MOU member states are subject to inspection, and their performance record determines the frequency and intensity of future inspections through the New Inspection Regime (NIR) that the Tokyo MOU operates. High-risk flag states whose ships have frequent deficiencies and detentions face more intensive inspection and greater operational disruption than flag states with strong compliance records. Improving Bangladesh's flag state performance in the Tokyo MOU, by strengthening the technical capacity of the Bangladesh maritime administration and improving the quality of the nationally registered fleet, is both a national reputational interest and an economic necessity for the development of Bangladesh's maritime sector.

The PSC regime also affects Bangladesh as a port state: Bangladesh's ports, primarily Chittagong and Mongla, receive foreign vessels calling for cargo operations, and Bangladesh has PSC inspection obligations toward these vessels. The development of an effective domestic PSC programme, staffed by adequately trained PSC officers using systematic inspection protocols consistent with the Indian Ocean MOU standards, is an important element of Bangladesh's maritime governance capacity. Currently, Bangladesh's PSC programme is not well developed, and the domestic implementation of PSC obligations is inadequate by international standards.

CHAPTER TWO: FLAG STATE RESPONSIBILITY: JURISPRUDENTIAL FOUNDATIONS AND BANGLADESH'S OBLIGATIONS

2.1 The Legal Doctrine of Flag State Responsibility: History and Philosophy

The flag state principle is one of the oldest and most foundational principles of the international law of the sea. The principle holds that every ship on the high seas must sail under the flag of one state only, and that ship is subject to the exclusive jurisdiction and control of that flag state. The flag state principle resolves the problem of maritime jurisdiction in the most fundamental way: it provides an answer to the question of which state's law governs a vessel and its crew in a space, the high seas, where no territorial sovereignty can apply.

The historical origins of the flag state principle lie in the practice of maritime states in the early modern period, when the expansion of ocean commerce made it necessary to establish some basis for jurisdiction over vessels and their activities on the high seas. The flag of a vessel, flown by custom and later by legal requirement, indicated the state to which the vessel was accountable and which had the right and the duty to govern it. The principle was consolidated in customary international maritime law through the practice of states and the writings of publicists through the eighteenth and nineteenth centuries, and it was codified in the 1958 Geneva Convention on the High Seas and subsequently in UNCLOS Article 91.

UNCLOS Article 91 provides that every state shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the state whose flag they are entitled to fly. There must exist a genuine link between the state and the ship. UNCLOS Article 94 elaborates the substantive obligations of flag states, requiring them to effectively exercise jurisdiction and control in administrative, technical, and social matters over ships flying their flag. These obligations encompass the maintenance of a register of ships, the assumption of jurisdiction under internal law over ships flying the flag and their masters, officers, and crew, ensuring that ships are surveyed before registration and at appropriate intervals thereafter, ensuring that ships are in the charge of a master and officers possessing appropriate qualifications, and ensuring that the master, officers, and crew are familiar with the applicable international regulations concerning safety at sea, prevention of collisions, prevention, reduction, and control of marine pollution, and the maintenance of communications by radio.

The requirement of a genuine link between the flag state and the ship, enshrined in UNCLOS Article 91, is one of the most contested provisions of the law of the sea. The concept of the genuine link was inserted into the 1958 Geneva Convention on the High Seas as a compromise between states that wished to impose substantive conditions on ship registration and states that, operating what became known as open registries or flags of convenience, wished to maintain a liberal registration policy that attracted foreign ships and generated registration revenue without imposing the heavy administrative burdens associated with a rigorous maritime administration. The International Court of Justice in the Nottebohm Case of 1955, dealing with the analogous question of genuine link in the context of nationality of persons, held that genuine link required a genuine connection between the state and the person, based on social facts, a real and effective link. Whether the same demanding standard applies to the ship nationality context has been debated, and the 1986 United Nations Convention on Conditions for Registration of Ships, which attempted to specify the content of the genuine link requirement, never entered into force for want of sufficient ratifications.

The philosophical dimensions of flag state responsibility have been illuminated by the jurisprudential debates about the relationship between formal legal personality and substantive accountability. The flag state principle, in its traditional form, assigns formal jurisdiction to the flag state but does not guarantee effective jurisdiction: a flag of convenience state that has registered thousands of ships for revenue purposes may exercise little effective oversight or control over those ships. The result is a legal fiction, in which a Liberian or Panamanian flag covers ships that are owned in Greece, managed in Singapore, crewed from the Philippines, Bangladesh, or India, and operated entirely outside any meaningful connection to the nominal flag state.

The critical legal studies analysis of flags of convenience, developed by scholars including Phillip Jessup, Francisco Orrego Vicuna, and more recently Natalie Klein, identifies flags of convenience as a structural feature of international shipping capitalism that allows shipowners to minimise labour costs, avoid the safety and environmental regulations of their home states, and escape the tax obligations that would apply if ships were registered under meaningful national flags. The flags of convenience system, on this analysis, is not a neutral legal institution but a mechanism for the exploitation of seafarers, the externalisation of environmental costs, and the

undermining of the regulatory standards that the international community has established through the IMO and ILO frameworks.

The Sub-Standard Ships problem, which is the term used in the shipping industry and in international legal discourse for ships that fail to meet the applicable safety and environmental standards, is directly connected to the flags of convenience issue. The Paris MOU and other PSC regimes regularly identify high-risk flag states, many of them flags of convenience, as sources of a disproportionate share of substandard ships. The enforcement of flag state responsibilities under UNCLOS Article 94 and the IMO conventions depends on the capacity, the will, and the genuine connection of the flag state to the ships it registers. Where these elements are absent, the international legal framework depends on port state control as a backstop enforcement mechanism, but PSC can only catch substandard ships when they enter ports, and it cannot adequately compensate for systematic failures of flag state responsibility.

2.2 Bangladesh as a Flag State: The Registration System and Its Legal Framework

Bangladesh maintains a national ship register under the framework established by the Merchant Shipping Ordinance of 1983 and its subsequent amendments. The register is administered by the Department of Shipping, which is the competent authority for the issuance of certificates of registration, the maintenance of registration records, and the exercise of flag state jurisdiction over nationally registered vessels. The Bangladeshi-flagged fleet, while modest in comparison with the major open registry states, has grown in recent years as the development of coastal and river trade has increased the demand for nationally registered vessels.

The legal framework for ship registration in Bangladesh exhibits several significant weaknesses that undermine the effectiveness of flag state jurisdiction. The 1983 Ordinance predates many of the most important developments in IMO conventions and codes and has not been comprehensively updated to reflect the current requirements of flag state jurisdiction under SOLAS, MARPOL, the MLC, and related instruments. The genuine link requirement of UNCLOS Article 91 is not meaningfully implemented in domestic law: there is no systematic assessment of whether ships seeking registration under the Bangladesh flag have a genuine connection with Bangladesh, and the registration process is primarily administrative rather than substantive in character.

The capacity of the Department of Shipping to effectively exercise jurisdiction and control over Bangladesh-flagged vessels is limited. The survey and inspection of Bangladesh-flagged vessels, which is required by SOLAS and MARPOL as a condition of the issuance and maintenance of statutory certificates, is largely delegated to recognised organisations, which conduct statutory surveys on behalf of the Bangladesh maritime administration. The oversight of recognised organisation performance, which is a critical component of effective flag state jurisdiction, is not well developed. The Bangladesh maritime administration lacks the specialist surveyors and inspectors in sufficient numbers to conduct independent oversight of RO surveys and to investigate and follow up on deficiencies identified in PSC inspections of Bangladesh-flagged vessels.

The implementation of the ISM Code, which requires all ships above a certain size to have a Safety Management System (SMS) certified by the flag state or its recognised organisations, is a critical dimension of Bangladesh's flag state responsibilities. The SMS requirement was one of the most significant regulatory innovations in the history of IMO safety regulation, introduced in the aftermath of the Herald of Free Enterprise and Estonia ferry disasters as a framework for ensuring that shipping companies have systematic procedures for managing safety risks. The effective auditing and verification of SMS compliance requires a level of technical sophistication and institutional capacity that the Bangladesh maritime administration has not consistently demonstrated.

2.3 Open Registries, Flags of Convenience, and the Political Economy of Ship Registration

Bangladesh has not historically operated as an open registry or flag of convenience state in the classic sense. Its ship registration regime is primarily designed to serve the domestic maritime industry rather than to attract foreign tonnage through relaxed registration requirements and low fees. However, the international phenomenon of flags of convenience is highly relevant to Bangladesh in several respects.

First, a very large number of ships that call at Bangladesh's ports, and whose activities in Bangladesh's maritime zones therefore engage Bangladesh's port state and coastal state jurisdiction, are registered in flags of convenience. Liberia, Panama, the Marshall Islands, and a number of other open registries collectively account for more than half of the world's merchant fleet by gross tonnage, and their ships are regular callers at Chittagong and other Bangladeshi ports. Bangladesh's port state control regime must be adequate to verify the compliance of these vessels with the applicable IMO standards, regardless of the quality of their flag state oversight.

Second, many Bangladeshi shipowners register their vessels in foreign open registries, particularly Singapore, Hong Kong, and some traditional flags of convenience, in order to benefit from the more relaxed regulatory environments and lower administrative costs of those registries. This practice deprives the Bangladesh maritime administration of the supervisory relationship and the registration revenue associated with those vessels, and it reflects a rational response by shipowners to the combination of administrative burden and limited regulatory effectiveness that characterises the Bangladesh flag state regime. The reform of Bangladesh's ship registration framework to make it more attractive for Bangladeshi-owned vessels while maintaining genuine and effective flag state oversight would reduce this leakage and strengthen the maritime administration.

Third, the flags of convenience phenomenon illustrates the fundamental tension between the principle of flag state exclusivity and the reality of globalised shipping operations. A modern commercial ship may be owned in one country, mortgaged to a bank in another, managed by a company in a third, insured in a fourth, chartered to an operator in a fifth, and crewed from several others, while flying the flag of a state with minimal connection to any of these parties. The legal framework that pretends that the flag state exercises effective jurisdiction and control over such a vessel is, as the critical legal scholars note, largely fictional, and the practical governance of such a vessel depends on the combined and not always well-coordinated efforts of

port states, coastal states, the ship's own SMS, and the commercial oversight of charterers, insurers, and lenders.

The 2024 IMO's development of the MASS regulatory framework and the questions it raises about the jurisdiction and control of autonomous vessels, discussed in Part Seventeen of this commentary, adds a new dimension to this already complex picture. An autonomous vessel with no crew, or with only a skeleton watch crew, that is remotely operated from a shore control centre in one country while flying the flag of another, presents challenges to the existing concept of flag state jurisdiction that are not adequately addressed in the current legal framework.

CHAPTER THREE: SOLAS, MARITIME SAFETY LAW, AND BANGLADESH'S OBLIGATIONS

3.1 The Historical Development of SOLAS: Catastrophe, Reform, and the Evolution of Maritime Safety Governance

The history of the International Convention for the Safety of Life at Sea (SOLAS) is a history of catastrophe and legislative response, a pattern that has characterised the development of maritime safety law since the early twentieth century and that tells us something important about the relationship between norm generation and tragedy in the legal governance of high-risk industries. The first SOLAS Convention was adopted in 1914 in the immediate aftermath of the Titanic disaster of 1912, which had demonstrated in the most dramatic possible way the lethal consequences of inadequate lifeboat provision, poor emergency communications, and complacent assumptions about the unsinkability of technologically advanced vessels.

The Titanic disaster is significant not only as a historical event but as a moment of profound social and philosophical reflection on the relationship between technology, hubris, and death at sea. The vessel was the product of the most advanced shipbuilding technology of its era, operated by one of the most prestigious shipping lines in the world, carrying the most affluent passengers of the Edwardian age alongside hundreds of emigrants in third-class accommodation, and it sank on its maiden voyage with the loss of over 1,500 lives because of a combination of navigation error, inadequate lifesaving equipment, and class-based assumptions about the differential value of first-class and third-class passengers' lives. The social stratification of maritime death, in which first-class passengers had meaningfully better survival prospects than third-class passengers and crew, was not a consequence of the iceberg alone; it was a consequence of a system of maritime governance that placed more weight on commercial service and passenger comfort than on universal safety standards.

The first SOLAS Convention was followed by the 1929 and 1948 Conventions, each adopted in the aftermath of significant maritime disasters or in response to the recognition that evolving shipping practices had outpaced the applicable safety standards. The current SOLAS Convention, adopted in 1974 and entering into force in 1980 with subsequent amendments through the tacit acceptance procedure, is a comprehensive instrument containing detailed requirements for ship construction, fire protection, lifesaving appliances, radio communications,

navigation safety, carriage of dangerous goods, nuclear ships, and the management of high-speed craft. It is supplemented by a vast array of IMO codes and guidelines that provide technical specificity to its general requirements.

The most significant single addition to the SOLAS framework in the past three decades has been the International Safety Management (ISM) Code, which entered into force in 1998 for passenger ships and high-speed craft and in 2002 for all other ships above certain sizes. The ISM Code requires every company operating ships covered by SOLAS to develop, implement, and maintain a Safety Management System that addresses the following elements: a safety and environmental protection policy, instructions and procedures to ensure safe operation of ships and protection of the environment, defined levels of authority and lines of communication between shore and shipboard personnel, procedures for reporting accidents and non-conformities, procedures to prepare for and respond to emergency situations, and procedures for internal audits and management reviews. The flag state or its recognised organisations are required to audit SMS compliance and issue Document of Compliance (DOC) certificates to companies and Safety Management Certificates (SMC) to individual ships.

The philosophical foundation of the ISM Code is the organisational accident theory developed by James Reason in his influential 1990 book Human Error, which argued that major industrial accidents are typically the result not of individual human failures alone but of systemic organisational failures, what Reason called latent failures, that create the conditions in which individual errors can cascade into catastrophe. The Swiss Cheese model, by which organisational safety is conceived as multiple layers of defence each with holes representing latent failures, and the latent failure concept, became the intellectual foundation for a new approach to safety management in high-hazard industries including aviation, nuclear energy, and shipping. The ISM Code institutionalised this organisational approach to safety in the shipping industry, requiring companies to build systems that identify, assess, and manage risks rather than simply relying on the competence and vigilance of individual crews.

3.2 Bangladesh's SOLAS Obligations and Implementation

Bangladesh's obligations under SOLAS cover multiple dimensions of maritime safety administration. As a flag state, Bangladesh must ensure that ships flying its flag are designed, constructed, equipped, and maintained in conformity with SOLAS requirements and carry the appropriate SOLAS certificates. As a port state, Bangladesh must verify, through its PSC programme, that foreign ships calling at its ports comply with the applicable SOLAS standards. And as a state responsible for search and rescue services in its maritime zones, Bangladesh must maintain adequate SAR coordination and response capabilities.

The implementation of SOLAS flag state obligations requires a national maritime administration with the technical capacity to survey ships against the applicable construction and equipment standards, audit SMS compliance, and maintain an effective system of port state control. As noted above, Bangladesh's implementation of these obligations is substantially delegated to recognised organisations, with inadequate direct oversight by the maritime administration. This delegation model is permissible under SOLAS but requires robust mechanisms for oversight,

accountability, and audit of RO performance, which are not adequately developed in Bangladesh's current regulatory framework.

The ISM Code is particularly important for Bangladesh in the context of the Matarbari deep-sea port development and the expanding fleet of commercial vessels calling at and operating from Bangladesh's ports. As Bangladesh's maritime commerce grows and the complexity of its maritime operations increases, the systematic identification and management of safety risks through ISM-compliant SMS systems becomes increasingly important for protecting human life, preventing environmental damage, and managing the financial and reputational costs of maritime accidents.

The 2025 SOLAS amendments, some of which entered into force on 1 January 2026 under the tacit acceptance procedure, include amendments to Chapters II-2 and V of SOLAS adopted at MSC 108, addressing fire protection and navigational safety respectively. These amendments reflect the IMO's ongoing process of updating SOLAS standards in response to operational experience, accident investigation findings, and technological development. Bangladesh's maritime administration must monitor these regulatory developments and ensure that they are reflected in its domestic implementing framework, including the delegated authority arrangements with recognised organisations.

The cybersecurity dimension of SOLAS, while not explicitly addressed in the Convention text, has been the subject of IMO guidance and resolution that effectively integrate cybersecurity into the ISM Code framework from 1 January 2021. The Maritime Safety Committee's guidance on maritime cyber risk management requires that cyber risks be appropriately addressed in safety management systems, recognising that the growing digitalisation of ship operations, including the use of electronic chart display and information systems (ECDIS), integrated bridge systems, engine automation systems, and cargo management systems, has created new attack surfaces that can have direct safety consequences if exploited. Bangladesh's flag state oversight and port state control inspection of SMS cyber risk management is an area that requires specific attention and capacity development.

3.3 STCW and the Standards for Seafarer Training and Competency

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), adopted in 1978 and substantially revised by the Manila Amendments of 2010 and subsequent amendments, establishes the global minimum standards for the training, competency, and certification of seafarers serving on ships that fall within its scope. The Convention applies to seafarers serving on seagoing ships entitled to fly the flag of a party to the Convention, and it prescribes minimum standards of competence for officers in charge of navigational and engineering watches, masters and chief engineers, electro-technical officers, and personnel responsible for lifesaving and firefighting.

For Bangladesh, STCW has particularly significant implications, given that Bangladesh is one of the world's most important labour-supplying states for the international shipping industry. The STCW 2010 Manila Amendments, which entered into force in 2012 with a transition period ending in 2017, significantly revised the training and competency requirements for seafarers,

including new requirements for leadership and teamwork, advanced training in hazardous and noxious substances, updated requirements for tanker familiarisation, and new electro-technical officer certification. Bangladesh's maritime training institutions, including the Bangladesh Marine Academy, the Marine Fisheries Academy, and various private maritime training institutes, have invested significantly in upgrading their curricula and facilities to meet the revised STCW requirements.

The quality assurance of STCW training and certification in Bangladesh has been a subject of scrutiny. The Paris MOU and other PSC regimes conduct white-list assessments of flag states' STCW administration, and Bangladesh's white-list status has been a matter of concern on a number of occasions. The quality of maritime education and training certificates issued in Bangladesh is critical not only for Bangladesh's domestic maritime operations but for the employability of Bangladeshi seafarers in the international labour market, and any deterioration in certificate quality or in the international recognition of Bangladeshi STCW certificates would have severe consequences for the hundreds of thousands of Bangladeshi seafarers and their families who depend on international maritime employment.

The January 2026 amendments to the STCW Code, which introduce new mandatory minimum requirements for basic training and instruction for seafarers in the prevention and response to violence and harassment including sexual harassment, bullying, and sexual assault, are a reflection of the IMO's belated but significant engagement with the systemic problem of gender-based violence in the shipping industry. These amendments, which bring the STCW Code into alignment with the ILO's Violence and Harassment Convention No. 190 of 2019, require flag states to ensure that seafarers receive training in recognising, preventing, and responding to violence and harassment, and they reflect a growing recognition that the safety of seafarers cannot be defined exclusively in technical terms but must encompass the personal safety and dignity of the human beings who live and work at sea.

CHAPTER FOUR: MARPOL AND THE PREVENTION OF MARINE POLLUTION FROM SHIPS

4.1 The Architecture and Philosophy of MARPOL

The International Convention for the Prevention of Pollution from Ships (MARPOL), originally adopted in 1973 and modified by the 1978 Protocol, is the principal international instrument governing marine pollution from ship operations. MARPOL addresses six categories of potential marine pollutants through its six Annexes: Annex I covers oil, Annex II covers noxious liquid substances in bulk, Annex III covers harmful substances in packaged form, Annex IV covers sewage, Annex V covers garbage, and Annex VI covers air pollution including greenhouse gas emissions. The Convention is mandatory in its core provisions and applies to all ships engaged in international voyages.

MARPOL represents a paradigm case of international regulatory lawmaking in response to a series of high-profile environmental catastrophes. The Torrey Canyon disaster of 1967, in which

a Liberian-flagged supertanker ran aground on the Isles of Scilly off the coast of Cornwall and spilled 119,000 tonnes of crude oil, causing massive environmental damage to the coasts of southern England and northern France, was the event that galvanised the international community into developing a comprehensive international framework for the prevention of pollution from ships. The subsequent disasters of the Amoco Cadiz in 1978, the Exxon Valdez in 1989, and the Prestige in 2002 each contributed to the progressive strengthening of the MARPOL regime, demonstrating that voluntary industry standards and inadequate flag state oversight were insufficient to prevent catastrophic oil pollution of the marine environment.

The philosophical foundations of MARPOL reflect the evolution of environmental law thinking from the 1970s to the present. The early MARPOL framework, like much environmental regulation of the 1970s, was primarily oriented toward the prevention of direct harm from specific pollution events. It established discharge standards, designated Special Areas in which even lower standards applied, and required ships to maintain oil record books documenting operational discharges. This pollution prevention approach has gradually been supplemented, and in some respects displaced, by a precautionary approach and an ecosystem-based approach that reflects the evolution of environmental law philosophy since the Rio Declaration of 1992.

MARPOL Annex VI, added by the 1997 Protocol and entering into force in 2005, extended MARPOL's reach from traditional marine pollution to air pollution and ultimately to climate change. The regulation of sulphur oxide (SOx) emissions, which have been progressively tightened through the establishment of Emission Control Areas (ECAs) and through global sulphur cap requirements, and the regulation of nitrogen oxide (NOx) emissions through Tier I, II, and III engine standards, addressed significant air quality and marine acidification concerns. But the most significant development in MARPOL Annex VI has been the progressive expansion of the IMO's climate-related regulatory programme, from the initial Energy Efficiency Design Index (EEDI) requirement for new ships, through the Ship Energy Efficiency Management Plan (SEEMP) requirement for all ships, to the Carbon Intensity Indicator (CII) operational efficiency rating system and the ongoing development of the IMO GHG Fuel Standard.

The IMO's GHG strategy, adopted in 2018 and significantly strengthened by the 2023 Strategy, represents an ambitious commitment to decarbonise international shipping by or around 2050. The mid-term measures being finalised in 2025, including the GHG Fuel Standard and the carbon pricing mechanism, are expected to be adopted at MEPC 83 and to enter into force around 2027. These measures will represent the most significant regulatory intervention in the economics of international shipping since the introduction of the sulphur cap, and their implications for Bangladesh as both a port state and a maritime trading nation are profound.

For Bangladesh as a port state, the availability of compliant alternative fuels, including liquefied natural gas (LNG), methanol, ammonia, and hydrogen, will be a critical factor in the ability of ships calling at Bangladeshi ports to comply with the GHG Fuel Standard. If Bangladesh's ports cannot supply compliant alternative fuels, ships on voyages that include Bangladesh port calls may face compliance challenges that affect the economics of those voyages and ultimately the competitiveness of Bangladesh's ports relative to those in neighbouring countries that invest in alternative fuel bunkering infrastructure. The developing country correction factor being

discussed in the IMO's MEPC process, which would adjust GFS requirements for ships serving developing country ports, is intended to address this concern, but its scope and duration remain to be defined.

4.2 MARPOL and Bangladesh: Flag State and Port State Implementation

Bangladesh's implementation of its MARPOL obligations covers both the flag state dimension, ensuring that Bangladesh-flagged ships comply with MARPOL discharge standards and carry the required equipment and documentation, and the port state dimension, ensuring that ships visiting Bangladesh's ports comply with applicable MARPOL standards and that adequate port waste reception facilities are available.

The port waste reception facilities requirement of MARPOL is a dimension that has been historically neglected in Bangladesh. MARPOL requires port states to provide adequate reception facilities for ships' waste, including oily water mixtures, noxious liquid substance residues, sewage, garbage, and air pollution management equipment, so that ships can discharge these materials at port rather than being forced to discharge them at sea for want of port facilities. The inadequacy of port waste reception facilities at Chittagong and Mongla ports has been documented in inspections and port reports, and it creates a practical incentive for ships to engage in non-compliant discharges at sea rather than retaining waste for discharge at port.

The oil pollution response dimension of Bangladesh's maritime environmental governance is also inadequate. MARPOL and the associated International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) require coastal states to have oil pollution emergency plans and national response capabilities appropriate to the level of risk. The development of the Matarbari deep-sea port complex and the planned expansion of offshore hydrocarbon activity in Bangladesh's EEZ significantly increases the oil pollution risk in Bangladesh's coastal and marine areas. The existing national oil spill response capability is limited, and the domestic legal framework for oil pollution response, including the coordination among the relevant agencies (the Bangladesh Coast Guard, the Department of Environment, the Department of Shipping, and Petrobangla), is not clearly defined in legislation.

The 2024 ITLOS Advisory Opinion on climate change, as discussed in earlier parts of this commentary, has created a new dimension of MARPOL Annex VI obligations by confirming that greenhouse gas emissions constitute marine pollution under UNCLOS. While the Advisory Opinion addresses the UNCLOS framework primarily, its implications for the interpretation of states' domestic maritime environmental obligations, including their obligations under MARPOL, are significant. Bangladesh's MARPOL Annex VI implementation framework must be read in light of the Advisory Opinion's confirmation that GHG emissions are a form of marine pollution subject to the due diligence prevention and reduction obligations of international law.

4.3 Special Areas and Particularly Sensitive Sea Areas: The Bay of Bengal

MARPOL provides for the designation of Special Areas in which stricter discharge standards apply than on the high seas, in recognition of the particular ecological vulnerability or the concentrated shipping traffic of certain sea areas. Special Areas have been designated for the

Baltic Sea, the North Sea, the Mediterranean Sea, the Black Sea, the Red Sea, the Gulf of Aden, the Gulf Area, the Antarctic Area, the North West European Waters, the Oman Area, and the Southern South African Waters. Notably, the Bay of Bengal has not been designated as a MARPOL Special Area under any Annex, despite its ecological importance, its high shipping traffic, and the severe marine environmental challenges it faces.

The International Maritime Organization also provides for the designation of Particularly Sensitive Sea Areas (PSSAs), which are areas that need special protection through action by IMO because of their significance for recognised ecological, socio-economic, or scientific reasons and which may be vulnerable to damage by international maritime activities. PSSAs receive enhanced routing measures, reporting requirements, and other protective measures as part of the designation. Several ecologically important areas, including the Great Barrier Reef, the Galapagos Archipelago, and the Torres Strait, have been designated as PSSAs.

The case for designating parts of the Bay of Bengal, particularly the area around the Sundarbans and the adjacent marine environment, as a PSSA or as a MARPOL Special Area under Annex V (garbage) and Annex I (oil), is strong. The Sundarbans is a UNESCO World Heritage Site and Ramsar wetland of global ecological significance, and it is vulnerable to damage from the international shipping traffic transiting the Bay of Bengal and calling at Bangladesh's and India's ports. The ecological and economic case for enhanced protective measures in this area is compelling, and Bangladesh, in coordination with India, should make a formal submission to the IMO for the designation of appropriate protective measures for the Sundarbans marine area. This is an element of Bangladesh's international maritime environmental diplomacy that has been insufficiently pursued.

CHAPTER FIVE: MARITIME LABOUR LAW AND THE RIGHTS OF SEAFARERS

5.1 The Historical Background: From the Harsh Old Law to the MLC

The legal condition of seafarers through most of maritime history was one of brutal exploitation, enforced by a legal regime that treated the seaman as a class apart, subject to extraordinary legal powers of compulsion and punishment that were unavailable to employers of land-based workers. The ancient power of impressment, by which the British naval authorities could forcibly recruit merchant seamen into naval service, the power of the master to confine and punish disobedient crew members, the desertion laws that criminalised the act of leaving a ship before completion of the agreed voyage, and the practice of paying off crews in foreign ports without adequate provision for their repatriation combined to create conditions of virtual bondage that maritime labour rights reformers contested from the late eighteenth century onward.

The history of maritime labour law reform is deeply connected to the broader history of labour movement activism and to the specific experiences of seafarers' unions, particularly the British-based National Union of Seamen and the International Transport Workers' Federation (ITF), which has been the most persistent and effective advocate for seafarers' rights in the international

arena since its foundation in 1896. The ITF's campaign against flags of convenience, which began in the 1950s and 1960s as a response to the use of open registries to avoid collective bargaining obligations and national labour standards, has shaped the international legal framework for maritime labour in fundamental ways.

The ILO's engagement with maritime labour dates from the founding of the organisation in 1919. The Maritime Labour Convention of 2006, which is described in the previous sections in outline, consolidated and updated more than 68 existing ILO maritime labour conventions and recommendations, providing for the first time a comprehensive and coherent international framework for the rights of seafarers on commercial vessels. The Convention entered into force on 20 August 2013 and has since been ratified by states representing more than 97 percent of world gross shipping tonnage.

The MLC has been described as the fourth pillar of international maritime law alongside SOLAS, STCW, and MARPOL, and this characterisation captures both its importance and its distinctive character. Like the IMO conventions, the MLC establishes minimum standards that apply on a global basis to commercial shipping, creating a floor of rights and obligations that national law and collective agreements can exceed but cannot fall below. Unlike the IMO conventions, which are primarily technical in character and address the safety of the vessel, the MLC is primarily focused on the human dimension of maritime operations, establishing minimum standards for the conditions of employment, accommodation, food and catering, health care, welfare, and social security of the human beings who work at sea.

5.2 The Architecture of the MLC: Five Titles and the Enforcement System

The MLC is organised around five Titles, each addressing a distinct dimension of seafarers' working and living conditions. Title 1 addresses minimum requirements for seafarers to work on a ship, including minimum age (sixteen years generally, eighteen years for night work and hazardous areas), medical fitness, training and qualifications, and recruitment and placement. Title 2 addresses conditions of employment, including seafarers' employment agreements (SEAs), wages, working and rest hours (maximum of fourteen hours work in any twenty-four hour period, or seventy-two hours in any seven-day period), the right to leave, repatriation, compensation in cases of abandonment, and career and skill development. Title 3 addresses accommodation, recreational facilities, food, and catering, establishing specific minimum standards for cabin sizes, communal spaces, ventilation, lighting, sanitary facilities, hospital accommodation, and the quality and quantity of food and drinking water. Title 4 addresses health protection, medical care, welfare, and social security protection, including access to medical care on board and ashore, shipowners' liability for health care costs, seafarers' welfare facilities in port, and social security protection. Title 5 addresses compliance and enforcement, establishing the flag state inspection and certification system, the port state control regime, and the onboard complaint procedures that give individual seafarers a mechanism for raising grievances.

The 2022 amendments to the MLC, which entered into force on 23 December 2024, introduced significant new provisions addressing several issues that had become prominent in the aftermath of the COVID-19 pandemic. The social connectivity provisions require shipowners to ensure that seafarers have access to internet connectivity as part of the recreational facilities requirement,

recognising the critical importance of communication with family and friends for the psychological wellbeing of seafarers who may spend many months at sea in relative isolation. The amendments also strengthened the provisions on seafarers' right to be informed of their rights prior to engagement, on the investigation and reporting of seafarer fatalities, and on the financial protection for abandoned seafarers, addressing the problem of seafarer abandonment that became particularly acute during the COVID-19 pandemic when many seafarers were stranded on ships far from home due to port and border closures.

The 2025 amendments to the MLC, which were adopted at the 5th meeting of the Special Tripartite Committee in April 2025 in Geneva and are expected to be formally adopted at the ILO Conference in June 2025, with entry into force anticipated in late December 2027, introduce several further significant provisions. The recognition of seafarers as key workers, which became a major advocacy priority of seafarers' unions during the COVID-19 pandemic when the denial of seafarers' right to disembark and be repatriated stranded hundreds of thousands of seafarers at sea for many months, is formalised as a new standard in the MLC, requiring governments to take appropriate measures to facilitate seafarers' safe movement for crew changes, shore leave, repatriation, and medical care ashore. The new shore leave regulation prohibits states from requiring seafarers to obtain visas or special permits for shore leave and prohibits discrimination in the grant of shore leave, while making explicit that states can deny shore leave only for serious reasons related to public health, public safety and security, or public order, with a written explanation required upon request.

The MLC 2025 amendments also address violence and harassment on board ships, aligning the Convention with the Violence and Harassment Convention No. 190 of the ILO and requiring flag states to define, prevent, eliminate, and prohibit by law any onboard violence and harassment including sexual harassment, bullying, and sexual assault. This is a profoundly important development in the context of a global industry in which the isolation of seafarers at sea, the power imbalances between masters and crew, and the historically male-dominated culture of the shipping industry have made it a particularly high-risk environment for gender-based violence. The MLC 2025 amendments, taken together with the STCW Code amendments that entered into force in January 2026 requiring seafarer training in violence and harassment prevention and response, create a comprehensive international framework for addressing gender-based violence in the maritime sector that Bangladesh must implement domestically.

5.3 Bangladesh's Maritime Labour Law Framework and Its Inadequacies

Bangladesh is not a party to the Maritime Labour Convention. This is a significant gap in Bangladesh's international maritime law obligations and in the protection of Bangladeshi seafarers. Given that Bangladesh is one of the world's most important maritime labour-supplying states, with tens of thousands of Bangladeshi seafarers serving on ships registered in countries that are parties to the MLC and therefore subject to its flag state and port state control obligations, the failure to ratify the MLC has consequences for the protection of those seafarers' rights.

When a Bangladeshi seafarer serves on a ship registered in a state that has ratified the MLC, the flag state's MLC obligations apply to that seafarer's working and living conditions regardless of

the seafarer's nationality. Bangladesh, as a labour-supplying state, has an interest in ensuring that Bangladeshi seafarers are protected by these obligations and that the recruitment and placement services operating in Bangladesh meet the MLC's requirements for private recruitment and placement services. However, the absence of MLC ratification by Bangladesh means that the domestic legal framework for regulating recruitment and placement services, for enforcing minimum wage and employment conditions, and for providing social security protection to Bangladeshi seafarers is governed by domestic labour law rather than by the MLC framework, with consequent gaps and inconsistencies.

The Merchant Shipping Ordinance of 1983, the primary domestic legislation governing seafarers' employment in Bangladesh, contains provisions on seafarers' agreements, wages, working hours, discipline, and repatriation that were adequate for their era but that fall significantly short of contemporary MLC standards in several respects. The maximum working hours provisions of the Ordinance have not been updated to reflect the MLC's fourteen-hours-in-twenty-four maximum, and the enforcement of working hours limits in practice has been inadequate. The provisions on seafarers' medical care and social security protection are rudimentary and do not reflect the comprehensive framework of the MLC's Title 4. The Ordinance's provisions on seafarers' recruitment and placement services are minimal and do not address the elaborate requirements of the MLC's Standard A1.4 on recruitment and placement agencies.

The 2022 MLC amendment requirement that states ensure the investigation and reporting of seafarer fatalities, which entered into force on 23 December 2024, is directly relevant to Bangladesh. Bangladesh is a significant producer of fatality statistics in the maritime sector, both through accidents on domestic vessels and through the deaths of Bangladeshi seafarers on international vessels. The systematic investigation and reporting of these fatalities, in accordance with a published national framework and with reporting to the ILO's global register, is not currently conducted in Bangladesh, and the development of such a framework is a necessary element of maritime law reform.

The problem of seafarer abandonment, which the 2022 MLC amendments address through strengthened financial security and repatriation provisions, affects Bangladeshi seafarers disproportionately. Abandoned seafarers, who are stranded on ships without wages, food, or means of repatriation, typically come from developing countries that do not have effective diplomatic or consular capacity in the ports where abandonment occurs. The IMO/ILO database of abandoned seafarers consistently records a large number of Bangladeshi seafarers among those abandoned. The development of domestic legislation implementing the MLC's abandonment provisions, including the requirement for shipowners to maintain financial security for repatriation costs, and the establishment of a national mechanism for assisting abandoned Bangladeshi seafarers, are urgent reform priorities.

5.4 The Labour Rights of Seafarers: A Jurisprudential Analysis

The legal status of seafarers in international and domestic law raises profound questions of jurisprudential theory that have not been adequately addressed in the mainstream maritime law literature. Seafarers are workers, but they are workers in a distinctive situation that has historically placed them outside or at the margins of the standard frameworks of labour law.

They work in a mobile and transnational environment that makes the application of any single national labour law system problematic. They live at their workplace for extended periods, creating a conflation of the employment relationship with the conditions of their physical daily existence that is unique among occupational categories. They are subject to an authority relationship with the master of the vessel that has historically been quasi-military in character and that has included powers of discipline and constraint unavailable to employers in land-based industries.

Lon Fuller's concept of the internal morality of law, which holds that legal norms must meet certain formal criteria of generality, promulgation, clarity, non-contradiction, non-retroactivity, constancy, congruence between official action and declared rule, and possibility of compliance in order to qualify as genuine law, provides a useful analytical framework for evaluating the MLC as a legal instrument. By Fuller's criteria, the MLC is a reasonably well-designed legal instrument: its standards are stated with sufficient clarity, its requirements are publicly promulgated, its compliance procedures are practicable, and there is meaningful congruence between the declared standards and the enforcement mechanisms. But the adequacy of the MLC by Fuller's criteria at the international level does not guarantee its effectiveness at the domestic implementation level, where the gap between declared standards and actual practice is often very large.

The TWAIL perspective on maritime labour law, as developed by scholars including Liliana Obregon and others working in the tradition of Third World approaches to international law, raises important questions about the political economy of the MLC framework. The consolidation of sixty-eight existing ILO maritime labour conventions into the single MLC was presented as a simplification and strengthening of seafarers' protections, but critics have argued that the process involved significant concessions to shipowner interests and resulted in the reduction of protections that had existed under some of the earlier specialised conventions. The adoption of the concept of substantial equivalence, which allows states to implement MLC requirements through regulations that differ in form but are equivalent in effect, creates significant flexibility for states to water down protections while claiming technical compliance.

The feminist legal theory perspective on maritime labour law, developed by scholars including Valerie Bimrose and others working on gender and the maritime industry, highlights the gendered dimensions of seafarers' rights that have been historically invisible in mainstream maritime labour law scholarship. The very small proportion of women in the commercial seafaring workforce, estimated at approximately two percent of the global seafarer population, reflects a combination of formal and informal exclusion that the MLC and other international instruments have only recently begun to address. The new MLC provisions on violence and harassment prevention and on menstrual hygiene products as required supplies represent a significant advance in the gender-sensitivity of the international framework, but they are still modest in relation to the structural barriers that prevent women from full and equal participation in the maritime profession.

CHAPTER SIX: ADMIRALTY JURISDICTION AND THE PRIVATE LAW OF MARITIME CLAIMS

6.1 The Origins and Philosophy of Admiralty Jurisdiction

Admiralty law, also known as maritime law or the law of the sea in its private dimension, is among the oldest bodies of law in continuous operation in the legal systems of common law countries. Its origins lie in the medieval period, when the Lord High Admiral of England exercised jurisdiction over maritime disputes through a separate court, the High Court of Admiralty, which applied a body of law derived from the Rhodian Sea Law, the Rolls of Oleron, and other ancient customary codes of maritime commerce. The distinctiveness of admiralty jurisdiction from the common law courts of England was a source of sustained institutional conflict through the sixteenth and seventeenth centuries, as the common law courts, particularly the Court of King's Bench and the Court of Common Pleas under the leadership of Edward Coke, challenged the admiralty's jurisdiction and fought to confine it to matters uniquely maritime. The outcome of this institutional contest, partially settled by the nineteenth century Admiralty Acts, was the preservation of a distinctive body of admiralty law with its own substantive rules and procedural mechanisms, most notably the action in rem against the ship itself.

The action in rem, which is the procedural heart of admiralty law, is one of the most distinctive and philosophically interesting features of the maritime legal system. In an action in rem, the claimant proceeds against the ship itself as the defendant, causing it to be arrested by the court and held as security for the claim. This procedure reflects the conceptual fiction that the ship is a legal person capable of committing wrongs and of being held responsible for them, a fiction that was given perhaps its most explicit philosophical expression in the United States Supreme Court's decision in The Madruga of 1924, in which Justice Stone observed that the ship is treated as a juristic person, as an entity capable of contracting, incurring liabilities, and owning property.

The action in rem has significant practical implications for the enforcement of maritime claims. It allows a claimant with a recognised maritime claim, such as a claim for unpaid freight, salvage, collision damage, or maritime lien for wages, to arrest the ship in any port where it can be found, regardless of where the shipowner is located or whether the shipowner can be personally served with process. This makes it possible to enforce maritime claims against shipowners who might otherwise be unreachable by reason of their being incorporated in foreign jurisdictions, their assets being held in multiple countries, or their having structured their corporate affairs to make personal service difficult. The action in rem is therefore a crucial mechanism for the effective enforcement of maritime rights, and it has been adopted in substantially similar form by the maritime law systems of most common law countries.

The international harmonisation of admiralty jurisdiction, and specifically the question of which claims give rise to the right to arrest a ship, has been addressed in two international conventions: the International Convention for the Unification of Certain Rules Relating to the Arrest of Sea-Going Ships of 1952, which was the product of the Comite Maritime International (CMI) and which was widely ratified, and the International Convention on Arrest of Ships of 1999, which is a more modern instrument that has been less widely ratified. The 1999 Convention provides a more comprehensive list of maritime claims, including claims for environmental damage, that

give rise to the right of arrest, and it addresses some of the procedural complexities of the 1952 Convention. Bangladesh is a party to neither convention, which creates significant uncertainty about the domestic legal basis for ship arrest proceedings and makes Bangladesh a less predictable jurisdiction for the enforcement of maritime claims.

6.2 Maritime Liens and Preferred Maritime Claims

The concept of the maritime lien is closely related to the action in rem and is one of the most technically complex aspects of admiralty law. A maritime lien is a privileged claim against a vessel that is created automatically by operation of law in connection with specific categories of maritime claim, that attaches to the ship itself regardless of changes in ownership, and that travels with the ship wherever it goes. The maritime lien concept is unique to admiralty law; there is no directly comparable concept in the land-based property law systems of common law or civil law countries.

The international harmonisation of maritime liens has been addressed in the International Convention on Maritime Liens and Mortgages of 1926 and 1967, and subsequently in the more widely ratified International Convention on Maritime Liens and Mortgages of 1993. The 1993 Convention, which Bangladesh has not ratified, establishes a hierarchy of maritime claims, with maritime liens given priority over registered mortgages and over other claims. The recognised categories of maritime lien under the 1993 Convention are: claims for wages and other sums due to the master and other members of the ship's complement, claims arising from loss of life or personal injury, claims for salvage, claims for port, canal, and other waterway dues, and claims based on tort arising out of physical loss or damage caused by the operation of the ship. These claims attach as maritime liens to the ship and take priority, in the order listed, over all other claims against the ship, including mortgages.

The priority of seafarers' wage claims as maritime liens is of particular significance for Bangladesh as a seafarer-supplying state. When a ship is sold in enforcement proceedings following arrest, the hierarchy of maritime claims determines the order in which the proceeds are distributed. If seafarers' wage claims rank as maritime liens with priority over mortgages, the seafarers have a reasonable prospect of recovering their wages even if the ship is heavily mortgaged and the proceeds of sale are insufficient to satisfy all claims. The 1993 Convention's placement of seafarers' wages at the top of the maritime lien hierarchy reflects the international community's recognition of the special vulnerability of seafarers and the social importance of ensuring that their wages are protected. Bangladesh's domestic law on maritime liens, which is governed by the colonial-era Merchant Shipping Act provisions incorporated in the 1983 Ordinance, does not clearly reflect the 1993 Convention's hierarchy and needs to be updated.

6.3 The High Court Admiralty Division in Bangladesh: Jurisdiction and Practice

Bangladesh's Admiralty Court jurisdiction is exercised by the High Court Division of the Supreme Court of Bangladesh, which has inherited the admiralty jurisdiction of the former High Court of East Pakistan and, before that, the Calcutta High Court under British colonial administration. The admiralty jurisdiction of the High Court is based on the Admiralty Court Act

of 1861 of the English Parliament, which was applied in British India and inherited by Pakistan and subsequently Bangladesh through the continuation of colonial legislation.

The practical exercise of admiralty jurisdiction by the Bangladesh High Court has been limited and, by international standards, relatively underdeveloped. Ship arrest proceedings are infrequent, partly because the volume of maritime commerce involving Bangladesh-connected parties that gives rise to arrestable maritime claims is limited, and partly because the procedural mechanisms for ship arrest in Bangladesh are not well-known to the international maritime legal community and may not be perceived as reliable for enforcing maritime claims involving foreign shipowners.

The inadequacy of Bangladesh's domestic admiralty law framework has several dimensions. First, the substantive law on maritime claims, maritime liens, and ship arrest is largely unreformed since the colonial period and does not reflect the developments in international maritime law that have occurred in the intervening century. The absence of ratification of the 1993 Maritime Liens and Mortgages Convention and the 1999 Arrest Convention means that Bangladesh's domestic law diverges from international standards in ways that can cause uncertainty and injustice in maritime claim enforcement. Second, the procedural framework for ship arrest is not codified in a dedicated admiralty procedure code or in detailed rules of court, and the practices that have developed are not consistently applied or widely understood. Third, the Bangladesh Supreme Court, while staffed by extremely competent general jurists, does not have specialist admiralty judges with deep technical knowledge of maritime law and commercial shipping practice, which are essential for the effective resolution of complex admiralty disputes.

The reform of Bangladesh's admiralty law framework, through the enactment of a new Admiralty Act that modernises the substantive law on maritime claims and liens, provides clear procedural mechanisms for ship arrest and sale, incorporates the international convention standards on maritime liens and mortgages, and creates the basis for specialist admiralty judicial expertise, is an important element of the broader maritime law reform agenda. A well-functioning admiralty court system is not merely of technical legal interest; it is a practical necessity for the development of Bangladesh's maritime commercial sector, because international shipping finance, maritime insurance, and the enforcement of voyage and time charter rights all depend on the availability of reliable and technically expert legal remedies.

CHAPTER SEVEN: LIMITATION OF LIABILITY IN MARITIME LAW: DOCTRINE, CONTROVERSY, AND REFORM

7.1 The Historical and Philosophical Foundations of Limitation of Liability

The doctrine of limitation of liability is one of the most distinctive and most philosophically controversial features of maritime law. Under this doctrine, shipowners and other maritime defendants are entitled to limit their liability for maritime claims arising from a casualty to a sum calculated by reference to the tonnage of the ship, regardless of the actual extent of the loss suffered by the claimants. The limitation fund, constituted at the prescribed amount, is

distributed pro rata among all qualifying claimants if the total claims exceed the fund. This means that in a major maritime casualty, the victims of the accident may receive only a fraction of their actual losses, with the remainder absorbed by the claimants themselves or by their own insurers.

The historical origins of limitation of liability lie in the early modern period, when coastal and trading nations sought to encourage maritime enterprise and investment by limiting the financial exposure of shipowners to the catastrophic losses that the hazardous nature of maritime operations could produce. The principle that the shipowner's liability should not exceed the value of the ship, introduced in various forms by Dutch, French, and English maritime law from the seventeenth century onward, reflected the economic philosophy that maritime commerce was a social good that required legal incentives to overcome the natural risk aversion of capital. Without some form of liability limitation, the argument went, the risk of catastrophic loss from shipwreck, collision, or fire would deter investment in ships and thereby impede the economic development that maritime commerce enabled.

This economic justification for limitation of liability, while coherent in its historical context, has become deeply problematic in the modern era of large commercial ships, advanced safety technology, and comprehensive marine insurance. The modern argument for limitation of liability rests primarily on the contention that limitation facilitates the pooling of maritime risks through the P and I Club system of mutual marine liability insurance, which covers shipowners' third-party liabilities in excess of the limitation amount. Without the certainty of predictable maximum liability provided by limitation, it is argued, P and I Clubs could not calculate premiums accurately, and the mutual insurance system that provides the financial backbone of the international shipping industry would be destabilised.

The philosophical objections to limitation of liability are profound and have been articulated by tort theorists from the late nineteenth century to the present. Jules Coleman's corrective justice theory of tort law, which holds that the primary function of tort law is to correct the wrongs suffered by victims through the imposition of liability on wrongdoers proportionate to the harm caused, is fundamentally incompatible with a limitation regime that caps the liability of wrongdoers at a sum that may be far less than the harm they have caused. Ernest Weinrib's formal theory of private law, which grounds tort liability in the bilateral relationship between plaintiff and defendant, similarly has difficulty accommodating a system in which the defendant's liability is determined not by the nature of the wrong and the harm suffered but by the tonnage of the vessel involved. And the utilitarian objection, which holds that any limitation of liability reduces the incentive for potential defendants to invest in accident prevention, is directly relevant to the debate about whether limitation of liability contributes to or detracts from maritime safety.

The international framework for limitation of maritime liability has been established through a series of international conventions: the Brussels Convention of 1924, the International Convention on the Limitation of Liability of Owners of Sea-Going Ships of 1957, the Convention on Limitation of Liability for Maritime Claims of 1976 (LLMC), and the 1996 Protocol to the LLMC Convention. The 1976 LLMC, as modified by the 1996 Protocol, is now the dominant international instrument in this area. It establishes limitation amounts calculated by

reference to ship tonnage, specifies the claims subject to limitation and the exceptions to the limitation right, and establishes the procedure for constituting the limitation fund.

A distinctive feature of the LLMC system, which has been described by legal scholars as one of the most extreme forms of limitation in any body of law, is the near-impossibility of breaking limitation. Under LLMC Article 4, a person liable shall not be entitled to limit liability if it is proved that the loss resulted from his personal act or omission, committed with the intent to cause such loss, or recklessly and with knowledge that such loss would probably result. This standard, which requires proof of a very high degree of personal fault, is extraordinarily difficult to satisfy in practice, and there have been virtually no cases in which limitation has been broken under the LLMC framework. This means that even in cases of egregious corporate negligence, shipowners can typically limit their liability to the modest amounts prescribed by the Convention.

7.2 The Major International Liability Conventions: Oil Pollution, Nuclear Damage, and HNS

The LLMC framework establishes a general limitation of liability framework for maritime claims, but a series of specialised international liability conventions establish specific, and typically more generous, compensation frameworks for particular categories of maritime claim. The most important of these are the international oil pollution liability conventions, the Civil Liability Convention (CLC) of 1992 and the Fund Convention of 1992, which establish a two-tier compensation system for oil pollution damage from tanker spills, with the shipowner's liability insurance covering the first tier and a supplementary International Oil Pollution Compensation Fund (IOPC Fund) covering claims that exceed the CLC liability limits up to the Fund's maximum. The 2003 Supplementary Fund Protocol adds a third tier for states that choose to participate.

Bangladesh is not a party to the 1992 CLC or the 1992 Fund Convention, a gap that has significant practical consequences. In the event of a major oil spill from a tanker in Bangladesh's territorial sea or EEZ, whether from a stranded vessel, a collision, or an operational accident, the victims of pollution damage in Bangladesh would not have automatic access to the IOPC Fund for compensation. They would be limited to claims against the shipowner under domestic tort law or whatever general admiralty law applies, potentially subject to general LLMC limitation, without the benefit of the comprehensive oil pollution compensation system that Fund Convention parties can access.

The practical significance of this gap is heightened by the increasing volume of tanker traffic through the Bay of Bengal and in Bangladesh's coastal waters. The Bay of Bengal is a transit route for tankers carrying crude oil and petroleum products from the Middle East to South and East Asia, and accidental oil spills in this area would cause severe damage to Bangladesh's coastal and marine environment, to its fishing industry, and to its coastal communities. The ratification of the CLC and Fund Convention, and the development of the domestic implementing legislation required to give effect to them, is an urgent priority in Bangladesh's maritime law reform agenda.

The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention), adopted in 1996 and revised by the 2010 Protocol, establishes a compensation framework for pollution damage from the carriage of HNS by sea analogous to the CLC/Fund system for oil pollution. Bangladesh is also not a party to the HNS Convention, leaving it similarly exposed in the event of a major HNS spill. Given that Chittagong handles significant volumes of chemical cargoes, the ratification of the HNS Convention is an additional reform priority.

The Bunker Oil Pollution Convention of 2001, which establishes strict liability and compulsory insurance requirements for pollution damage caused by bunker oil from ships other than tankers covered by the CLC, has been ratified by more than 100 states. Bangladesh is not among them, creating a gap in its oil pollution liability framework for non-tanker vessel spills.

7.3 Wreck Removal and the Nairobi Convention

The Nairobi International Convention on the Removal of Wrecks of 2007 entered into force on 14 April 2015 and has since been widely ratified by maritime states. The Convention is the first binding international instrument to address the problem of shipwrecks that pose a danger to navigation, the marine environment, or the coastline of affected states. It requires the registered owner of a ship involved in a maritime casualty resulting in a wreck to report the casualty to the affected state, permits the affected state to determine whether the wreck constitutes a hazard, and imposes on the registered owner the obligation and the financial responsibility for locating, marking, and removing the wreck. The owner must maintain compulsory insurance or other financial security to meet the costs of wreck removal, and the Convention allows direct action against the insurer.

The Nairobi Convention fills an important gap in the international maritime law framework by providing a comprehensive and financially backed regime for the removal of wrecks, replacing the previous situation in which the obligation and the financial responsibility for wreck removal were governed by an inconsistent patchwork of domestic laws, often without adequate compulsory insurance requirements. The Convention is relevant to Bangladesh in several ways. Bangladesh's coastal and offshore waters contain numerous wrecks, both from historical conflicts including the 1971 Liberation War and from more recent maritime accidents, that may pose navigational hazards or environmental risks. The regime of financial responsibility for wreck removal, and the compulsory insurance requirement, is important for managing the risks that the expanding volume of maritime traffic in Bangladesh's waters creates for future wreck situations.

Bangladesh has not ratified the Nairobi Convention, leaving the domestic framework for wreck marking, removal, and cost recovery in an unsatisfactory state. The 1983 Merchant Shipping Ordinance contains provisions on wreck, but they do not reflect the comprehensive framework of the Nairobi Convention and do not include compulsory insurance requirements. The development of a modern domestic wreck regime, consistent with the Nairobi Convention, should be part of the comprehensive reform of Bangladesh's shipping legislation.

CHAPTER EIGHT: SALVAGE LAW: ANCIENT DOCTRINE AND MODERN CHALLENGES

8.1 The Historical Development of Salvage Law

The law of salvage is among the oldest bodies of private maritime law, with antecedents in the Rhodian Sea Law and in Roman jurisprudence, and it addresses a distinctively maritime problem that has no precise analogue in land-based law: the situation of a vessel in distress at sea, the voluntary effort of third parties to rescue the vessel and its cargo from that distress, and the entitlement of those third parties to a reward for their services. The law of salvage has been shaped by two competing principles that are in fundamental tension with each other: the humanitarian principle, which holds that those in peril at sea have a right to assistance and that legal duties should encourage rather than impede rescue, and the commercial principle, which holds that salvors, who take on risk and expense in providing their services, deserve adequate financial compensation for successful salvage.

The traditional common law rule, expressed in the maxim no cure no pay, reflected the commercial principle above all: a salvor was entitled to a salvage award only if the salvage was successful in the sense of preserving some property that had value. If the salvor spent enormous effort and resources but the vessel ultimately sank, or sank so low in value that no recovery was possible from the proceeds, the salvor received nothing. This rule was an incentive for salvors to select the salvage operations with the highest probability of success and the greatest expected value of the preserved property, which was commercially rational but environmentally problematic: it meant that salvors had no financial incentive to undertake salvage operations that primarily served environmental objectives, such as preventing a seriously polluted vessel from sinking.

The environmental inadequacy of the no cure no pay rule was dramatically exposed by a series of major oil tanker disasters in the 1980s, most notably the Amoco Cadiz grounding of 1978 and the Tanio grounding of 1980, both of which occurred off the coast of Brittany and caused massive oil pollution. In both cases, salvors were unable to prevent significant oil spills despite their best efforts, and under the traditional no cure no pay rule they received little or no salvage award because there was little or no property to preserve. The Lloyd's Open Form (LOF) salvage contract, which had been the standard form for large commercial salvage operations for most of the twentieth century, was felt to be inadequate for the new challenges posed by large tanker casualties in environmentally sensitive waters.

8.2 The 1989 International Convention on Salvage

The International Convention on Salvage of 1989 substantially reformed the traditional law of salvage in response to these environmental concerns. The Convention, which has been widely ratified and which is incorporated by reference in the updated Lloyd's Open Form (LOF 2011), introduced the concept of special compensation as a supplement to the traditional salvage award in cases where the salvor has prevented or minimised environmental damage. Under Article 14 of the 1989 Convention, where a salvor has carried out salvage operations in respect of a vessel which by itself or its cargo threatened damage to the environment, the salvor is entitled to special

compensation from the owner equivalent to his expenses if the traditional salvage award is less than those expenses. If the salvor has furthermore prevented or minimised environmental damage, the special compensation may be increased by up to 100 percent of the expenses.

The 1989 Convention's special compensation provisions addressed the most acute inadequacy of the no cure no pay rule in the environmental context, but they did not fully resolve the problem of providing adequate financial incentives for environmentally motivated salvage. The SCOPIC clause, developed as a contractual supplement to LOF in 1999, provides an alternative mechanism for the payment of environmental salvage services that is cleaner and more predictable than the Article 14 calculation. Under SCOPIC, the salvor is paid on a tariff basis for the personnel, equipment, and third-party craft used in the salvage operation, supplemented by a 25 percent uplift, regardless of the environmental outcome. SCOPIC has now been widely adopted in LOF salvage operations.

The jurisprudential significance of the 1989 Convention's introduction of environmental value as a factor in salvage law goes beyond its specific provisions. It represents an important instance of the internationalisation of environmental values into the private law of maritime obligations, reflecting the broader shift in the philosophy of maritime law from a purely commercial framework toward a framework that recognises ecological interests alongside economic interests. The academic literature, including the work of Yvonne Baatz and others on environmental salvage, has analysed this shift as part of the broader move toward an ecosystem services approach to the valuation of maritime legal interests.

8.3 Salvage and Bangladesh: Legal Framework and Practical Concerns

Bangladesh's domestic legal framework for salvage is governed by the colonial-era provisions of the Merchant Shipping Ordinance, which reflects the traditional common law of salvage rather than the reformed framework of the 1989 Convention. Bangladesh is not a party to the 1989 Salvage Convention, which means that the modern environmental salvage provisions are not available as a matter of domestic law in proceedings before the Bangladesh courts.

The practical significance of a modern salvage law framework for Bangladesh is not purely theoretical. The Bay of Bengal sees a significant number of maritime casualties each year, including vessel strandings, collisions, and sinkings, many of which involve fishing vessels or coastal trading vessels that lack adequate insurance coverage. The ability of the Bangladesh Coast Guard and commercial salvors to respond effectively to maritime casualties in Bangladesh's coastal and offshore waters depends in part on the legal and financial framework that governs the costs of and rewards for salvage operations. If the financial incentives for salvage are inadequate, or if the liability of vessel owners for salvage costs is not clearly established, the response to maritime casualties will be hampered.

The development of a professional salvage industry in Bangladesh, with the capacity to respond to major maritime casualties involving large commercial vessels, is a longer-term goal that requires both legal reform and significant investment in salvage equipment and expertise. Currently, Bangladesh lacks a significant domestic commercial salvage capacity, and major salvage operations in Bangladeshi waters typically require the engagement of international

salvage companies at considerable expense. The development of a domestic salvage capacity, supported by a modern legal framework consistent with the 1989 Salvage Convention, would reduce this dependence and strengthen Bangladesh's capacity to manage maritime casualties in its waters.

CHAPTER NINE: MARINE INSURANCE: THE FINANCIAL BACKBONE OF MARITIME COMMERCE

9.1 The Historical Development of Marine Insurance

Marine insurance is among the oldest forms of insurance, with origins in the medieval period in the trading cities of the Mediterranean, particularly Genoa and Venice, where merchants developed the practice of transferring maritime risk to underwriters in exchange for the payment of a premium. The earliest documented marine insurance contract dates from Genoa in 1347, though the practice was undoubtedly older, and by the fifteenth and sixteenth centuries, marine insurance had become a sophisticated commercial practice governed by evolving customary law and by insurance codes in the major trading cities of Europe.

The history of marine insurance in England, which became the global centre of marine insurance from the seventeenth century onward, is deeply connected with the coffeehouse culture of the City of London and specifically with Edward Lloyd's Coffee House, established around 1688, where merchants, shipowners, and underwriters gathered to do business and exchange maritime news. The Lloyd's of London market, which developed from this coffeehouse into the world's leading specialist insurance market, has been the centre of marine insurance capacity for three and a half centuries and remains central to the global marine insurance industry today, despite the growth of alternative markets in continental Europe, Singapore, and New York.

Marine insurance law was codified in England by the Marine Insurance Act of 1906, which remains in force and is regarded as one of the most technically accomplished pieces of commercial legislation in the English legal canon. The Act codifies the principles developed by the common law of marine insurance over two centuries and provides a comprehensive framework for the formation, interpretation, and performance of marine insurance contracts. Many of the MIA's provisions have been adopted, with modifications, in the marine insurance legislation of common law jurisdictions around the world, and its concepts and terminology are used across the global marine insurance market regardless of the governing law of particular contracts.

9.2 The Structure of Marine Insurance: Hull, Cargo, and Liability

Marine insurance covers three principal categories of maritime risk: the ship itself, the cargo carried on the ship, and the liabilities of the ship and its operator to third parties. These three categories are governed by distinct forms of insurance contract with distinct legal characteristics.

Hull and machinery (H and M) insurance covers physical loss of or damage to the ship, including its machinery and equipment, resulting from maritime perils. The Institute Hull Clauses, published by the International Underwriting Association (IUA) and Lloyd's Market Association (LMA), provide the standard terms for hull insurance in the international market, establishing the scope of cover, the perils insured and excluded, the duties of the assured, and the claims procedure. The three principal forms of hull insurance cover, the Institute Time Clauses (Hulls), the Institute Voyage Clauses (Hulls), and the Institute War and Strikes Clauses (Hulls), reflect the distinction between time-based and voyage-based insurance periods and the treatment of war and political risks as a separate category requiring specific underwriting attention.

Cargo insurance covers the loss of or damage to goods carried by sea, whether in containers, in bulk, or in packaged form. The Institute Cargo Clauses, published by the IUA and LMA, provide the standard terms for cargo insurance in three principal forms: Clauses A, which covers all risks of physical loss or damage, subject to specified exclusions; Clauses B, which covers a more limited range of named perils; and Clauses C, which provides the narrowest cover. Cargo insurance is typically arranged by the shipper or the cargo owner under a contract of sale that specifies which party bears the risk of loss or damage during transit and therefore has the insurable interest that is a prerequisite for a valid insurance contract.

Protection and Indemnity (P and I) insurance, provided through the P and I Clubs, covers the third-party liabilities of the shipowner that are not covered by H and M insurance. The P and I Clubs are mutual associations of shipowners, each operating as a mutual insurer for its members' third-party liabilities. The major P and I Clubs, which are members of the International Group of P and I Clubs, collectively provide third-party liability cover for the vast majority of the world's commercial fleet. The liabilities covered by P and I insurance include crew injuries, illness, and death; cargo claims; collision liability; wreck removal; oil pollution liability; and fines and penalties. The pooling arrangements among the International Group clubs allow individual large claims, which can exceed a billion US dollars for a major oil spill or a vessel collision in a congested port, to be shared across the entire group's membership.

9.3 Marine Insurance and Bangladesh: Regulatory Framework and Market Development

Bangladesh's domestic marine insurance framework is governed primarily by the Insurance Act of 2010 and the Insurance Development and Regulatory Authority (IDRA), which is the domestic insurance regulator. The Bangladesh insurance market includes a number of domestic insurers that write marine insurance alongside other lines of business, but the capacity of the domestic market for large maritime risks is limited, and significant risks, particularly large commercial hull and cargo risks and the P and I liabilities of vessels operating internationally, are typically placed in the international market through brokers operating in London, Singapore, or other international insurance centres.

The development of Bangladesh's domestic marine insurance market is an important element of the broader development of the financial services sector that supports the blue economy. A well-developed domestic marine insurance market would reduce Bangladesh's dependence on the international market for the placing of marine risks, retain premium income within the domestic

economy, and provide more accessible and responsive coverage for the smaller commercial and fishing vessel risks that the international market may not cover efficiently.

The regulatory framework for marine insurance in Bangladesh does not specifically address several important dimensions of the international marine insurance framework, including the compulsory insurance requirements of international maritime conventions such as the CLC, the Bunker Convention, and the Nairobi Wreck Convention, the mutual insurance arrangements of P and I Clubs, and the specialist characteristics of war and strikes insurance for vessels operating in high-risk areas. The development of domestic implementing regulations for the compulsory insurance requirements of the maritime conventions that Bangladesh ratifies, and the development of regulatory oversight of P and I insurance arrangements for Bangladesh-flagged vessels, are necessary elements of maritime law reform.

The financial security requirements of the MLC's provisions on seafarer abandonment and financial compensation, which require shipowners to maintain certified financial security for the costs of repatriation and for the payment of contractual compensation in cases of seafarer death or long-term disability, create new regulatory challenges for Bangladesh as a flag state and as a seafarer-supplying state. The domestic implementing regulations for these requirements, which are necessary for Bangladesh's effective compliance with the MLC framework, need to be developed and coordinated with the relevant regulatory authorities including the Bangladesh maritime administration and the IDRA.

CHAPTER TEN: THE HONG KONG CONVENTION AND BANGLADESH'S SHIP RECYCLING INDUSTRY

10.1 The Historical Development of Ship Recycling: Industry, Environment, and Human Rights

The ship recycling industry, which processes the end-of-life commercial fleet by breaking down vessels into their component materials for resale and reuse, is concentrated in a small number of developing countries that have the combination of low labour costs, beach-landing topography suitable for the beaching method, and relatively relaxed environmental and safety regulation that makes this inherently hazardous and environmentally intensive activity commercially viable. The dominant ship recycling nations are Bangladesh, India, Pakistan, and Turkey, with China maintaining a significant domestic capacity, and together these countries process the vast majority of the world's decommissioned commercial tonnage.

Bangladesh's ship recycling industry, concentrated on the beaches of Sitakund and Bhatiari near Chittagong, is a major industrial activity and significant source of employment and government revenue. The industry processes hundreds of ships per year, providing raw materials for the domestic steel rolling industry and contributing significantly to the supply of recycled steel that supports Bangladesh's construction sector. At its peak, Bangladesh was the world's largest ship recycling nation by gross tonnage processed, and even in periods when competition from India and Pakistan has been intense, it has remained among the top two or three. The direct

employment in the shipbreaking yards, estimated at between 30,000 and 50,000 workers, is significant, and the downstream employment in steel rolling and related industries multiplies this figure substantially.

However, the Bangladesh ship recycling industry has been the subject of sustained and well-documented criticism on both environmental and human rights grounds. The beaching method of ship recycling, in which vessels are deliberately run aground at high tide and then dismantled by workers using manual labour and cutting equipment on the intertidal beach, is the least environmentally controlled method of ship recycling. It allows hazardous materials including asbestos, polychlorinated biphenyls (PCBs), lead-based paints, oil sludge, and heavy metals to be discharged directly onto the beach and into the intertidal zone during the dismantling process, causing severe soil and sediment contamination, water pollution, and ecosystem degradation. The pollution of the Sitakund coastline and the adjacent Bay of Bengal marine environment by decades of ship recycling activity has been extensively documented by NGOs including the Shipbreaking Platform, by academic researchers, and by governmental investigations.

The human rights record of the Bangladesh ship recycling industry is even more disturbing. The work is among the most physically dangerous industrial occupations in the world, with workers exposed to the risk of falls from heights, fires and explosions from residual fuel and gas pockets, chemical exposure from asbestos and other hazardous substances, injuries from unstable structures and heavy metal plate handling, and health effects from chronic exposure to toxic substances. The fatal accident rate in Bangladeshi shipbreaking yards has been estimated at approximately one death per week during peak activity periods, and the non-fatal injury rate is far higher. The workforce is largely composed of internal migrants from the poorest rural areas of Bangladesh, who often lack formal employment contracts, work without adequate personal protective equipment, and have limited awareness of the hazards they face.

The SN Corporation incident of 2024, in which an oil tanker explosion killed six workers and injured six others at a yard that held a Statement of Compliance with the Hong Kong Convention, illustrates the gap between formal certification and actual safety performance. The subsequent loss of SN Corporation's environmental clearance was an appropriate regulatory response, but it did not address the systemic factors, including inadequate hazard management systems, insufficient worker training, and inadequate enforcement of safety standards, that make such incidents recurring rather than exceptional.

10.2 The Hong Kong Convention: Architecture, Requirements, and Entry into Force

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, adopted in 2009 in Hong Kong, entered into force on 26 June 2025 following the deposit of the required number of ratifications. The Convention was the product of negotiations at the IMO that sought to establish a global binding framework for ship recycling that would address the environmental and safety shortcomings of the industry while remaining sensitive to the economic importance of ship recycling for the developing countries where most of it takes place.

The Convention establishes requirements at three levels: the design and construction of ships to facilitate their eventual safe and environmentally sound recycling, the operation of ships to

produce an Inventory of Hazardous Materials (IHM) listing all potentially hazardous materials on board, and the conduct of ship recycling at certified and approved Ship Recycling Facilities (SRFs). Ships falling within the Convention's scope, which covers vessels of 500 GT and above that are entitled to fly the flag of a Party and that are operated internationally, must carry a certified IHM and must be recycled only at SRFs on the list of approved facilities maintained by the parties to the Convention.

Ship Recycling Facilities seeking approval under the Hong Kong Convention must demonstrate compliance with a set of requirements addressing the management of hazardous materials, the protection of worker health and safety, the prevention of environmental pollution, and the management of emergency situations. The approval process involves inspection by the flag state administration or its recognised organisations, the development of a Ship Recycling Facility Plan (SRFP) that specifies the procedures for safe and environmentally sound recycling, and the issuance of a Statement of Compliance. The SRF must be authorised by the competent authority of the state in which it is located, which in the case of Bangladesh means the Ministry of Industries and associated regulatory bodies.

The entry into force of the Hong Kong Convention in June 2025 places new legal obligations on Bangladesh as a ship recycling state. While Bangladesh is not yet a party to the Convention, the Convention creates practical pressure for compliance because ships flying the flags of parties to the Convention must be recycled at approved SRFs, and the list of approved SRFs is maintained by the IMO. If Bangladeshi recycling yards are not on the list of approved facilities, ships flying the flags of Convention parties will not be able to use them, significantly reducing the market available to the Bangladeshi industry.

As of February 2025, Bangladesh's shipbreaking industry had developed seven certified yards under the Hong Kong Convention's requirements, a figure that represents a significant advance from the situation a decade earlier but that still accounts for only a small fraction of the total number of yards operating on the Sitakund coast. The development of draft amendments to Bangladesh's ship recycling legislation, facilitated by the IMO's SENSREC project and discussed at the February 2025 Dhaka workshop, represents a constructive step toward bringing the domestic legal framework into alignment with Hong Kong Convention requirements, but the process of amendment, inter-ministerial consultation, and parliamentary approval will take time, and in the interim, the majority of Bangladeshi ship recycling yards remain outside the certification framework.

10.3 The Basel Convention, the EU Ship Recycling Regulation, and the Intersection of Environmental Law Regimes

Bangladesh's ship recycling industry is subject not only to the emerging Hong Kong Convention framework but to the older framework of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, adopted in 1989 and entered into force in 1992. The Basel Convention prohibits the export of hazardous wastes from OECD and EU member states to non-OECD states for disposal, and in the context of ship recycling it has been argued by NGOs and environmental lawyers that the export of end-of-life ships containing

hazardous materials to developing countries like Bangladesh constitutes a prohibited transboundary movement of hazardous waste.

This Basel Convention argument has been the subject of sustained legal controversy. The debate turns on whether a ship can be characterised as a waste when it is sold for recycling, and whether the sale of a ship for recycling at a developing country yard constitutes an export of hazardous waste. The NGO Shipbreaking Platform and its legal advisers have argued vigorously that it does, and this argument has been supported by a number of EU member state courts and by the Basel Convention's technical guidelines on the environmentally sound management of the full and partial dismantling of ships. The opposing view, advanced by the ship recycling industry and by some states parties to the Basel Convention, holds that a ship sold in an arm's-length commercial transaction for recycling is not a waste and therefore does not fall within the Basel Convention's controls.

The European Union Ship Recycling Regulation (EU SRR), adopted in 2013 and establishing a European Union list of approved ship recycling facilities, has created a further layer of regulatory pressure on the Bangladeshi industry. The EU SRR requires ships flying the flag of an EU member state to be recycled at facilities on the EU list of approved facilities, which are assessed against a standard equivalent to the Hong Kong Convention requirements. The EU list has been slow to include South Asian facilities, partly because of concerns about actual safety and environmental performance at those facilities, and several NGO campaigns have challenged the inclusion of specific Bangladeshi and Indian yards on the EU list in legal proceedings before EU courts.

The intersection of the Hong Kong Convention, the Basel Convention, and the EU SRR creates a complex and sometimes contradictory regulatory environment for Bangladesh's ship recycling industry. The Hong Kong Convention was specifically designed to provide an alternative to the Basel Convention framework for ship recycling, on the theory that a ship-specific convention calibrated to the operational realities of the recycling industry would be more effective than the general hazardous waste framework. But the relationship between the two instruments, and specifically the question of whether Hong Kong Convention compliance satisfies Basel Convention obligations, has not been definitively resolved, and this legal uncertainty creates additional risk for ship recycling operators and for the states that regulate them.

10.4 The Workers' Rights Dimension: Labour Law and Human Rights in Ship Recycling

The human rights dimensions of Bangladesh's ship recycling industry are not only a matter of environmental governance but of labour law and fundamental rights. The workers employed in shipbreaking yards are among the most vulnerable in Bangladesh's workforce, facing hazardous conditions, inadequate legal protections, limited bargaining power, and in many cases employment relationships that fall outside the formal coverage of Bangladesh's labour legislation.

The Bangladesh Labour Act of 2006 (as amended in 2013 and 2018) establishes minimum standards for working conditions, occupational health and safety, employment terms, and workers' rights in formal sector employment. However, the application of the Labour Act to the

informally structured employment relationships prevalent in many shipbreaking yards is problematic. Workers who are engaged through labour contractors, who are classified as self-employed or day labourers rather than formal employees, or who work for small sub-contractors operating within the yards, may not be covered by the Act's protections in the way that the statute intends.

The Occupational Safety, Health and Working Environment Act of 2013, which specifically addresses occupational safety and health requirements in hazardous industries including shipbreaking, represents an improvement over the earlier legal framework but is not fully implemented or enforced. The inspection capacity of the Department of Inspection for Factories and Establishments (DIFE), which is responsible for enforcing occupational safety standards in shipbreaking yards, is limited relative to the scale and hazard level of the industry, and the prosecution of occupational safety violations is rare and the penalties are modest.

The connections between the Bangladesh ship recycling industry and international human rights law are increasingly acknowledged. The United Nations Guiding Principles on Business and Human Rights (UNGP), adopted by the UN Human Rights Council in 2011, establish that all business enterprises have a responsibility to respect human rights, including the rights to safe and healthy working conditions, to fair wages, to freedom from forced labour, and to effective remedies for human rights violations. The UNGP applies to the ship recycling industry and to the shipowners and shipbrokers who sell vessels to recycling facilities without adequate due diligence on the conditions at those facilities.

The due diligence obligations of shipowners under the UNGP framework, and the emerging regulatory framework of mandatory human rights due diligence legislation in several European countries, including the French Duty of Vigilance Law of 2017 and the German Supply Chain Due Diligence Act of 2021, are creating new legal pressure on ship recycling practices. These instruments require large companies to identify, prevent, mitigate, and account for human rights and environmental impacts throughout their supply chains, including the end-of-life disposal of assets. Ships are assets, and their disposal through beaching in Bangladeshi yards with documented human rights and environmental violations creates potential legal liability for the corporate entities in the shipping industry that choose to sell to those yards.

CHAPTER ELEVEN: CONTRACTS OF AFFREIGHTMENT: BILLS OF LADING, CHARTERPARTIES, AND THE GOVERNANCE OF MARITIME TRADE

11.1 The Bill of Lading: History, Legal Character, and Contemporary Challenges

The bill of lading is the central document of international maritime trade, performing three distinct functions that together make it indispensable to the financing, logistics, and legal governance of the movement of goods by sea. First, it is a receipt for goods delivered to the carrier, evidencing that the goods described in the bill have been received in the stated condition for carriage. Second, it is a document of title, representing the right to receive the goods at the port of destination and transferable by endorsement and delivery in such a way that a buyer of

the bill acquires the right to demand delivery of the goods from the carrier. Third, it is evidence of, or may incorporate, the contract of carriage, setting out the terms on which the carrier has agreed to transport the goods.

The legal history of the bill of lading spans several centuries, from the emergence of the first documented bill of lading forms in the fifteenth and sixteenth centuries through the formative English cases of the seventeenth and eighteenth centuries that established its character as a document of title, to the modern legislative and convention framework that governs its legal effect. The Harter Act of 1893 in the United States, the Hague Rules of 1924, the Hague-Visby Rules of 1968, the Hamburg Rules of 1978, and the Rotterdam Rules of 2008 represent successive attempts at international harmonisation of the legal framework governing the liability of carriers under bills of lading, with each iteration seeking to address the shortcomings of its predecessor and reflecting the shifting balance of negotiating power between carrier interests and cargo owner interests.

Bangladesh's domestic legal framework for bills of lading liability is governed primarily by the Carriage of Goods by Sea Act of 1925, which incorporates the Hague Rules, and by the subsequent adoption of the Hague-Visby Rules. The domestic framework has not been updated to reflect the Hamburg Rules or the Rotterdam Rules, the latter of which represents the most comprehensive and ambitious attempt to modernise the international framework for multimodal transport contracts including sea carriage, but which has not entered into force for want of sufficient ratifications.

The electronic bill of lading, discussed in the digital maritime governance chapter of Part Seventeen, is becoming an increasingly important dimension of bills of lading law reform. The United Kingdom's Electronic Trade Documents Act of 2023, which gives legal recognition to electronic transferable records equivalent to paper documents of title, represents a significant advance in the legal infrastructure for electronic bills of lading and is likely to influence the development of other jurisdictions' legislation. Bangladesh's domestic law does not currently provide for electronic bills of lading, creating a practical disadvantage for Bangladeshi shipping and trade logistics that should be addressed in the context of the broader reform of maritime commercial law.

11.2 Charterparties: Time, Voyage, and Bareboat Charters

The charterparty is the contract by which a shipowner makes a ship available for the carriage of goods or for some other maritime purpose in exchange for the payment of freight or hire. The principal forms of charterparty are the time charter, under which the shipowner makes the vessel available to the charterer for a specified period, the voyage charter, under which the vessel is made available for one or more specified voyages, and the demise or bareboat charter, under which the shipowner essentially leases the vessel to the charterer on terms that give the charterer full possession, control, and management of the vessel and make the charterer the disponent owner for the duration of the charter.

The law of charterparties is primarily governed by contract, and the standard form charterparties published by the Baltic and International Maritime Council (BIMCO), the Chamber of Shipping,

and other industry bodies, such as Gencon, Shellvoy, Shelltime, Asbatankvoy, and BARECON, provide the commercial framework within which most large commercial charterparty transactions are conducted. These standard forms incorporate detailed provisions on the rights and obligations of owners and charterers, including the laytime and demurrage provisions that govern the loading and discharging of cargo and the financial consequences of delay, the off-hire provisions that govern periods when the vessel is not performing the service for which the charterer is paying hire, and the maintenance and redelivery provisions that govern the condition of the vessel during and at the end of the charter.

Bangladesh's position in relation to charterparty law is that of a maritime trading state whose imports and exports are largely carried on chartered vessels. The international charterparty market operates primarily through English law and arbitration in London, which is the dominant governing law and dispute resolution forum for most large commercial charterparties. This means that Bangladesh's domestic law of charterparties is less directly relevant to the governance of the vessel operations that serve Bangladesh's trade than the international framework of English law, BIMCO standard forms, and London arbitration. However, Bangladesh's courts may be called upon to enforce awards made in London arbitration or judgments of English courts in cases arising from charterparties involving Bangladesh-related parties, and the domestic legal framework for the enforcement of foreign arbitration awards and judgments is relevant to the effectiveness of the international framework in the Bangladesh context.

11.3 The Rotterdam Rules and the Future of Carriage of Goods Law

The United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, known as the Rotterdam Rules, was adopted by the UN General Assembly in December 2008 and opened for signature in September 2009. The Convention represents the most ambitious attempt to modernise the international framework for the carriage of goods by sea since the Hamburg Rules of 1978, and it is specifically designed to address the challenges of multimodal transport contracts under which a single contract covers the carriage of goods by sea and by other modes of transport. As of 2025, the Convention has twenty-five signatories and five ratifications, falling significantly short of the twenty ratifications required for entry into force.

The Rotterdam Rules introduce several significant innovations compared to the Hague and Hague-Visby Rules, including a broader definition of the contract of carriage that encompasses door-to-door multimodal transport, a liability regime for carriers that eliminates the nautical fault defence, an extended limitation period of three years, provisions on the volume contract exception that allows large shippers to negotiate departures from the mandatory liability rules, and a framework for electronic transport documents that is designed to facilitate the transition to electronic bills of lading.

Bangladesh has not signed or ratified the Rotterdam Rules. This is consistent with the generally slow progress of the Convention toward entry into force, which reflects the difficulty of achieving consensus among the major maritime trading interests on the appropriate balance of obligations between carriers and cargo owners. For Bangladesh as a major cargo-interest state whose trade is carried predominantly in foreign-owned vessels, the Rotterdam Rules' erosion of the nautical fault defence (which has historically protected carriers at the expense of cargo

owners) would in principle serve Bangladesh's interests. However, the implications of the volume contract exception, which allows large shippers to negotiate opt-out from mandatory liability rules, are potentially adverse to smaller cargo interests including Bangladeshi importers and exporters who lack the bargaining power to negotiate favourable volume contracts.

CHAPTER TWELVE: BANGLADESH'S MERCHANT SHIPPING LEGISLATION: A COMPREHENSIVE CRITICAL ASSESSMENT AND REFORM AGENDA

12.1 The 1983 Merchant Shipping Ordinance: Origins, Content, and Deficiencies

The Merchant Shipping Ordinance of 1983, promulgated by the military government of General Hussain Muhammad Ershad and still in force today with relatively modest amendments, is the primary legislative instrument governing the registration of ships under the Bangladesh flag, the conditions of service of seafarers on Bangladesh-registered vessels, the safety management of vessels in Bangladesh's navigable waters, the prevention of marine pollution from ships, the investigation of maritime accidents, and a range of other matters relating to the maritime activities of Bangladesh's shipping industry.

The 1983 Ordinance was drafted in the context of the international maritime law of its time, before the adoption of the Maritime Labour Convention, before the development of the ISM Code, before the entry into force of MARPOL Annex VI regulating air pollution from ships, before the 1989 Salvage Convention, before the 1992 CLC and Fund Convention, before the 1993 Maritime Liens and Mortgages Convention, before the 1995 LLMC Protocol, before the 1996 HNS Convention, before the 2001 Bunker Convention, before the 2007 Nairobi Wreck Convention, and before the 2009 Hong Kong Convention. It was also drafted before the digital revolution in maritime operations and before the development of autonomous vessels, cybersecurity requirements, and electronic trade documentation. In short, it was drafted before virtually every significant development in international maritime law that has occurred in the intervening four decades.

The deficiencies of the 1983 Ordinance are numerous and have been identified in academic commentaries, government reports, and the recommendations of the Bangladesh Shipping Corporation and Department of Shipping over many years. The most significant of these deficiencies, from the perspective of this commentary's overarching theme of legislative reform, can be grouped under several headings.

First, the safety provisions of the Ordinance are inadequate and do not reflect the comprehensive SOLAS framework or the ISM Code. The survey and certification requirements are broadly described rather than specifically calibrated to international convention standards. The provisions on load lines, navigational equipment, and life-saving appliances are not updated to reflect the current SOLAS requirements. There is no specific provision implementing the ISM Code's requirements for Safety Management Systems, which is a fundamental gap given that ISM applies to many Bangladesh-flagged vessels.

Second, the environmental provisions are rudimentary and do not reflect the MARPOL framework. The 1983 Ordinance contains provisions on oil pollution prevention that are based on the 1969 CLC and are inconsistent with the 1992 CLC and other conventions to which Bangladesh has not acceded. There are no provisions implementing MARPOL Annex VI on air pollution, which did not exist in 1983, and no provisions implementing the modern framework of oil pollution response and compensation that the international community has developed since the Exxon Valdez disaster.

Third, the labour provisions of the Ordinance fall far short of MLC standards in multiple respects. The provisions on seafarers' agreements, wages, working hours, accommodation, and medical care are based on the ILO conventions of an earlier era and do not reflect the comprehensive framework of the MLC 2006 and its 2014, 2016, 2018, 2022, and 2025 amendments.

Fourth, the Ordinance does not provide for the full range of maritime claim enforcement mechanisms that are required for effective admiralty jurisdiction. There is no specific provision for the arrest of ships against which maritime liens or statutory maritime claims arise, no codification of the priority of maritime liens, and no procedural framework for the constitution and distribution of limitation funds.

Fifth, the accident investigation provisions of the Ordinance are inadequate and do not reflect the IMO's Casualty Investigation Code (CasCode), which establishes the standards for maritime accident investigation and the sharing of investigation reports among member states. Bangladesh's track record of thorough, systematic, and publicly reported maritime accident investigation is poor, and the legal framework for investigation does not create the conditions for improvement.

12.2 The Bangladesh Shipping Corporation Act and Port Governance Legislation

In addition to the Merchant Shipping Ordinance, Bangladesh's shipping law framework includes the Bangladesh Shipping Corporation Act of 1972, which established the national shipping carrier, and the Chittagong Port Authority Ordinance and the Mongla Port Authority Act, which govern the two main seaports. These instruments are supplemented by the Inland Shipping Ordinance of 1976, which governs the extensive network of river and coastal shipping that is of particular importance in Bangladesh's deltaic geography, and the Bangladesh Coast Guard Act of 2010, which established the Bangladesh Coast Guard as the primary maritime law enforcement agency.

The port governance framework in Bangladesh is widely regarded as inadequate for the demands of a modern maritime trading nation. The Chittagong Port Authority, which handles more than 90 percent of Bangladesh's overseas trade, is governed by legislation that does not adequately address port competition law, environmental management obligations, port security requirements under the ISPS Code, or the governance of the port as a node in the global maritime logistics network. The development of the Matarbari deep-sea port and the Bangladesh deep-sea port at Bay of Bengal creates a new governance challenge that the existing port legislation is not designed to address.

The ISPS Code, adopted by IMO in 2002 in the aftermath of the September 11 attacks and forming Chapter XI-2 of SOLAS, requires port facilities and ships to implement security plans and measures to prevent maritime terrorism and unauthorised access. Bangladesh's implementation of the ISPS Code at Chittagong and Mongla ports has been the subject of international security assessments, and while progress has been made, areas of concern about the completeness and consistency of ISPS Code implementation remain. The legal framework for port security, including the authorisation of port security measures, the legal status of security officers and their powers, and the interface between port security and customs and immigration enforcement, is not clearly defined in Bangladesh's domestic legislation.

12.3 The Proposed New Merchant Shipping Act: Elements and Principles

The reform of Bangladesh's merchant shipping legislation is among the most urgent and most comprehensive legal reform tasks on the national maritime agenda. A new Merchant Shipping Act for Bangladesh should be a comprehensive instrument that replaces the 1983 Ordinance and its ancillary legislation with a modern framework reflecting the full range of Bangladesh's international maritime obligations and the practical demands of twenty-first century maritime governance.

The principal elements of a new Merchant Shipping Act should include the following areas of coverage, each addressed with the specificity and technical detail required for effective implementation.

Ship registration should be addressed through a modernised registry framework that establishes clear eligibility requirements for registration under the Bangladesh flag, implements the genuine link requirement of UNCLOS Article 91 in a meaningful way, specifies the rights and obligations of registered owners, and provides for the discharge of flag state obligations through a combination of direct survey and oversight by the maritime administration and delegated functions performed by recognised organisations.

Safety management should incorporate the full requirements of SOLAS and the ISM Code into the domestic legal framework, specifying the survey and certification requirements for different categories of vessel, the requirements for safety management systems, the obligations of companies and masters regarding safety reporting and accident investigation, and the enforcement powers of the maritime administration and its authorised officers.

Marine pollution prevention should incorporate the full requirements of MARPOL, including Annex VI on air pollution, into the domestic framework, specifying discharge standards, equipment requirements, record-keeping obligations, and enforcement powers. The Act should specifically address the port waste reception facility requirements and should provide the legal basis for Bangladesh's participation in regional oil pollution response arrangements.

Seafarers' rights should be addressed through a comprehensive chapter implementing the MLC framework, specifying minimum employment standards for seafarers on Bangladesh-flagged vessels, requirements for the certification and oversight of manning agencies, obligations

regarding seafarers' medical care and social security, and enforcement mechanisms including the right to detain ships that fail to comply with MLC standards.

Maritime accident investigation should be addressed through provisions implementing the IMO CasCode, specifying the organisation and powers of the maritime accident investigation body, the procedures for investigation, the protection of evidence and witnesses, the preparation and publication of safety investigation reports, and the mechanisms for implementing safety recommendations.

Admiralty jurisdiction and maritime claims should be addressed through provisions implementing the international conventions on maritime liens and mortgages and on ship arrest, codifying the categories of maritime claims and maritime liens, specifying the procedure for ship arrest and the constitution of limitation funds, and establishing the procedural framework for admiralty proceedings.

Oil pollution liability and compensation should be addressed through provisions implementing the CLC, Fund Convention, Bunker Convention, and HNS Convention, establishing the liability framework for oil and HNS pollution damage, the requirements for compulsory insurance, and the procedures for claiming compensation from the IOPC Fund and other international compensation funds.

Wreck removal should be addressed through provisions implementing the Nairobi Convention, specifying the obligations of shipowners to report and remove wrecks, the powers of the maritime administration to require wreck removal, the liability for wreck removal costs, and the requirements for compulsory insurance.

Salvage should be addressed through provisions implementing the 1989 Salvage Convention, codifying the right to a salvage award, the basis for calculating the award including the environmental salvage provisions of Article 14, and the procedure for salvage claims.

Limitation of liability should be addressed through provisions implementing the 1976 LLMC Convention as modified by the 1996 Protocol, specifying the limitation amounts, the categories of claims subject to limitation, the exceptions to the limitation right, and the procedure for constituting and distributing the limitation fund.

12.4 The Inland Shipping Framework: A Distinct Reform Priority

Bangladesh's extraordinary network of rivers, canals, and tidal waterways, which carries a substantial proportion of the country's domestic freight and passenger traffic, operates under a distinct legal framework from the international maritime framework. The Inland Shipping Ordinance of 1976 and the Bangladesh Inland Water Transport Authority (BIWTA) Act provide the primary governance framework for inland water transport, but this framework is widely regarded as inadequate for the safety, environmental, and labour standards demands of the twenty-first century.

The safety record of Bangladesh's inland shipping sector is alarmingly poor. Bangladesh experiences a disproportionate number of fatal ferry and passenger vessel accidents relative to the volume of traffic, many of them caused by overloading, navigation in poor visibility without adequate equipment, structural failure of ageing vessels, and inadequate crew training and emergency procedures. High-profile disasters, such as the MV Pinak-6 sinking of 2012 and numerous subsequent ferry accidents, have periodically focused public attention on the inadequacy of the inland shipping safety framework, but sustained institutional reform has been slow.

The reform of inland shipping safety governance is not merely a domestic transportation policy matter; it is a maritime law and maritime rights issue. The right to life and to safe working conditions of the workers employed in the inland shipping sector, and the right to safe transportation of the passengers who rely on inland water transport as their primary means of travel, are fundamental rights that the legal framework must protect. The development of an integrated inland shipping safety framework, aligned with the principles of the SOLAS framework and the ISM Code as applied to the inland context, and implementing effective survey, certification, and inspection requirements for inland vessels, is an urgent reform priority.

CHAPTER THIRTEEN: INTERNATIONAL MARITIME DISPUTE RESOLUTION: ARBITRATION, MEDIATION, AND THE FUTURE OF MARITIME ADR

13.1 The Dominance of London Arbitration in International Maritime Disputes

London maritime arbitration, conducted primarily under the auspices of the London Maritime Arbitrators Association (LMAA) and governed by the Arbitration Act 1996 of England and Wales, is the globally dominant forum for the resolution of international shipping and maritime commercial disputes. The dominance of London arbitration reflects a combination of historical factors, most notably the role of London as the world centre of marine insurance and shipping finance from the seventeenth century to the present, the quality of the English commercial judiciary and arbitration bar, the sophistication of English maritime law as a governing law, and the network effects that arise when a very large proportion of standard form contracts, including most BIMCO charterparties, LOF salvage contracts, and P and I Club rules, designate English law and London arbitration.

The dominance of London arbitration creates several challenges for developing maritime states including Bangladesh. First, the cost of London arbitration, which involves the fees of experienced maritime arbitrators, the costs of specialist maritime solicitors and barristers, and the expenses of gathering evidence and witnesses from multiple jurisdictions, is substantial and can be prohibitive for small or medium-sized maritime claims. Second, the application of English law by London arbitrators may not always produce outcomes that reflect the legitimate interests of developing country parties, particularly in areas where English law has developed to serve the interests of the shipowning and insurance industries that are predominant in the English maritime legal market. Third, the ability of Bangladeshi parties to participate effectively in London arbitration is limited by the scarcity of experienced maritime arbitration practitioners in

Bangladesh, the limited exposure of Bangladeshi maritime lawyers to the technical specifics of English maritime law, and the practical difficulties of participating in hearings and evidence-gathering processes conducted in London.

The development of alternative maritime dispute resolution forums, including arbitration under Singapore, Hong Kong, or Indian law and at institutions including the Singapore International Arbitration Centre (SIAC), the Hong Kong International Arbitration Centre (HKIAC), and the Mumbai Centre for International Arbitration (MCIA), offers potential alternatives to London for maritime disputes involving Asian parties. The development of a regional maritime arbitration centre that serves the specific needs of South and Southeast Asian maritime commerce, perhaps under the auspices of BIMSTEC or an allied regional institution, is an ambitious but potentially valuable long-term objective that Bangladesh, as the host of the BIMSTEC secretariat, could champion.

13.2 The Role of Mediation in Maritime Dispute Resolution

Maritime mediation, while less well-developed than maritime arbitration, has been growing as an alternative or supplement to arbitration in the resolution of maritime commercial disputes. Mediation offers several potential advantages over arbitration in the maritime context, including speed, cost-effectiveness, preservation of commercial relationships, and the ability to reach creative solutions that go beyond the binary win-lose outcomes of adjudication. The CMI and BIMCO have both been active in promoting the use of mediation for maritime disputes, and several major maritime arbitration centres have developed mediation procedures that parties can use either before or instead of arbitration.

Bangladesh's domestic dispute resolution infrastructure for maritime matters, including both litigation in the Admiralty Court and alternative dispute resolution, is underdeveloped relative to the needs of a growing maritime commercial sector. The development of a maritime dispute resolution centre in Chittagong or Dhaka, offering both arbitration and mediation services, staffed by specialists in maritime law and practice, and connected to the international networks of maritime arbitration and mediation, would be a valuable institutional contribution to the development of Bangladesh's maritime commercial legal infrastructure.

13.3 The UNCLOS Dispute Settlement System and Its Interaction with Commercial Maritime Arbitration

The interaction between the public international law dispute settlement system of UNCLOS Part XV and the commercial maritime arbitration system deserves analysis. UNCLOS Part XV addresses disputes between states about the interpretation and application of the Convention, and its mechanisms, particularly ITLOS, the ICJ, and Annex VII arbitration, are designed for inter-state disputes. Commercial maritime arbitration under bodies like the LMAA addresses private commercial disputes between shipping industry parties, typically governed by contract and by the commercial law of the chosen governing law jurisdiction.

However, there are important zones of interaction between these two systems. The question of whether a specific maritime activity is lawful under UNCLOS, which is a question of public

international law, may be directly relevant to the commercial law question of whether a party has complied with its contractual obligations. For example, whether a vessel has a right of innocent passage through a particular strait under UNCLOS Article 17 may be relevant to whether the vessel owner has breached its obligation under a charterparty to proceed on the agreed voyage. The question of whether Bangladesh's maritime zone measures, including fisheries licensing requirements and environmental regulations, are consistent with UNCLOS may be raised as a defence in enforcement proceedings against foreign vessels.

The 2024 ITLOS Advisory Opinion on climate change has added a new dimension to this interaction. By confirming that greenhouse gas emissions from ships constitute marine pollution under UNCLOS, the Advisory Opinion creates a potential connection between the international public law obligations of flag states under UNCLOS and the private law obligations of shipowners under their contracts and insurance arrangements. If a flag state's failure to enforce GHG emission standards constitutes a breach of UNCLOS obligations, and if that breach contributes to climate damage suffered by another state, the question of whether the flag state has a financial liability for that damage, and through what legal mechanism it could be established, is a complex and unresolved question of international law that may have implications for commercial maritime arbitration involving climate-related claims.

CHAPTER FOURTEEN: THE FUTURE OF BANGLADESH'S SHIPPING LAW: PHILOSOPHICAL REFLECTIONS AND REFORM IMPERATIVES

14.1 Law, Development, and the Maritime Sector: A Political Economy Perspective

The political economy of maritime law reform in Bangladesh requires analysis that goes beyond purely technical legal prescription. Legal reform does not occur in a vacuum; it occurs within a political and economic context that shapes the interests, the power, and the preferences of the actors who determine whether and how reform occurs. Understanding this political economy is essential for designing reform strategies that have a realistic prospect of success.

The principal actors in Bangladesh's maritime governance system include the Ministry of Shipping and its subordinate bodies (the Department of Shipping, BIWTA, and the port authorities), the Bangladesh Navy and Coast Guard, the Bangladesh Fisheries Research Institute and Department of Fisheries, the Department of Environment, the private shipping industry including shipowners, manning agents, and ship recycling operators, the seafarers' unions and their international allies including the ITF, and civil society organisations including environmental NGOs and workers' rights organisations.

Each of these actors has distinct interests in maritime law reform, and these interests do not always point in the same direction. The private shipping industry and ship recycling operators have interests in regulatory frameworks that minimise compliance costs and enforcement burdens. The seafarers' unions and labour rights organisations have interests in stronger enforcement of labour standards and more robust protections for seafarers' rights. The environmental NGOs have interests in stronger environmental standards and more effective

enforcement. The maritime administration has interests in an institutional framework that gives it adequate authority, resources, and technical capacity to discharge its governance functions. And the government has interests that are a complex combination of economic development, resource mobilisation, international reputation, and political survival.

The history of maritime law reform in Bangladesh, including the failure to update the Merchant Shipping Ordinance for over four decades despite its manifest inadequacy, can be understood as a product of this political economy. The shipping industry, including the ship recycling sector, has had strong political connections that have enabled it to resist regulatory reform that would increase its compliance costs. The maritime administration has lacked the institutional capacity and the political backing to drive reform over industry resistance. And the civil society organisations that advocate for workers' rights and environmental protection have had limited influence over a regulatory reform process dominated by industry and executive interests.

The prospects for reform are, however, not without hope. The successful conclusion of Bangladesh's maritime boundary arbitrations and the resulting confirmation of Bangladesh's maritime entitlements have created political awareness of the importance of the maritime domain. The development of the blue economy strategy has created a shared national narrative around the potential of maritime resources for economic development that provides a political context for regulatory investment. The increasing international scrutiny of Bangladesh's ship recycling practices and the practical pressures of the Hong Kong Convention's entry into force in 2025 have created specific regulatory imperatives that the government is being required to address. And the growing engagement of Bangladeshi civil society and the academic maritime law community, reflected in publications like this commentary, is creating a more informed and critical constituency for maritime law reform.

14.2 Lessons from Comparative Maritime Jurisprudence: The Role of Legal Culture

The development of effective maritime law in Bangladesh requires attention not only to the content of specific legal reforms but to the broader culture of legal practice and legal reasoning in which those reforms will operate. Legal culture, a concept developed by Lawrence Friedman and others in the sociology of law tradition, refers to the attitudes, values, and expectations that members of a society bring to law and legal institutions. In Bangladesh, as in many developing countries, the legal culture of the maritime sector is characterised by a gap between the formal law, as expressed in statutes and international conventions, and the informal practices and norms that actually govern behaviour in the shipping industry.

This gap between formal and informal law manifests in several ways in the maritime context. The formal certification requirements for seafarers under the STCW Convention may be nominally complied with through the procurement of certificates that do not reflect actual competencies, a practice that has been identified in audits of some maritime training institutions. The formal environmental discharge standards of MARPOL may be nominally complied with through the maintenance of record books that do not accurately record actual discharges. The formal occupational safety requirements of the Labour Act may be nominally complied with through the maintenance of safety documentation that does not reflect actual workplace conditions.

Addressing this gap between formal and informal compliance requires legal reform that goes beyond the mere enactment of new legislation. It requires institutional investment in genuine enforcement capacity, the development of professional cultures of compliance within the shipping industry, the empowerment of workers and communities to report violations and seek remedies, and the establishment of credible consequences for non-compliance that create genuine deterrence. These are long-term institutional development challenges that are not amenable to simple legislative solutions.

14.3 The Constitutional Dimensions of Maritime Law Reform

The constitutional framework of Bangladesh, established by the Constitution of 1972 as amended, provides the legal foundation within which maritime law reform must operate. Several constitutional provisions are directly relevant to the maritime domain.

The fundamental rights provisions of Part III of the Constitution, including the rights to life, to equality, to freedom from exploitation, and to a healthy environment, create constitutional obligations that maritime governance must respect. The right to life, interpreted broadly by the Supreme Court of Bangladesh as encompassing the right to a liveable and decent existence, creates constitutional obligations to protect seafarers from unsafe working conditions, to protect coastal communities from marine environmental pollution, and to ensure that the exploitation of maritime resources does not come at the cost of the health and wellbeing of Bangladeshi citizens. These constitutional obligations provide a basis for judicial review of maritime governance decisions that fail to protect these rights.

The directive principles of state policy, set out in Part II of the Constitution, provide guidance on the economic and social objectives that maritime governance should serve, including the promotion of economic development, the reduction of inequality, and the protection of the natural environment. While the directive principles are not directly justiciable in the same way as the fundamental rights, they inform the interpretation of legislation and the exercise of administrative discretion, and they provide a normative framework against which the adequacy of maritime governance can be evaluated.

The distribution of constitutional authority over the maritime domain between the central government and local government is an important constitutional question that has not been adequately resolved in Bangladesh's legal framework. The governance of coastal zones, estuaries, and inshore fisheries involves powers and interests that are relevant both to the central maritime governance framework and to the legitimate interests of local government and local communities. A comprehensive maritime law reform should address this constitutional dimension and ensure that local governance structures have appropriate roles in the management of the coastal and near-shore maritime environment.

14.4 An Integrated Legislative Reform Agenda for Bangladesh's Shipping Law

The analysis in this Part converges on the need for a comprehensive, integrated reform of Bangladesh's shipping and maritime commercial law framework. The reform should be conceptualised not as a series of piecemeal amendments to existing legislation but as the

development of a coherent new legal architecture that reflects Bangladesh's current international obligations, serves its present and future maritime interests, and is designed for effective implementation and enforcement given Bangladesh's institutional capacities and constraints.

The legislative reform agenda should include, at minimum, the following instruments. A new Merchant Shipping Act replacing the 1983 Ordinance and incorporating the full range of Bangladesh's international maritime obligations across safety, environment, labour, liability, salvage, and registration. A new Admiralty Jurisdiction Act implementing the international conventions on maritime liens and ship arrest and providing a modern procedural framework for admiralty claims. A Maritime Pollution and Response Act implementing Bangladesh's obligations under the CLC, Fund Convention, Bunker Convention, and OPRC and establishing the institutional framework for oil pollution preparedness and response. A Seafarers' Rights Act implementing the MLC framework for seafarers employed on Bangladesh-flagged vessels and setting standards for manning agencies operating in Bangladesh. A Ship Recycling Act implementing the Hong Kong Convention framework and establishing the domestic approval and oversight regime for ship recycling facilities in Bangladesh. An updated Inland Shipping Act addressing the safety governance of Bangladesh's extensive inland shipping sector.

Alongside these specific legislative instruments, the institutional architecture of Bangladesh's maritime governance requires reform. The establishment of a Maritime Affairs Division or Ministry with comprehensive authority over maritime governance, integrating the currently fragmented functions of multiple ministries and agencies, is a structural reform that would dramatically improve the coherence and effectiveness of maritime governance. The development of a Maritime Safety Investigation Body, independent of the regulatory and enforcement functions of the maritime administration, would improve the quality and independence of maritime accident investigation. And the establishment of an adequately funded and staffed Bangladesh Maritime Academy with strong connections to the international maritime education and training system would over time address the human capital deficits that underlie many of the current governance weaknesses.

CONCLUSION TO PART EIGHTEEN: THE SEA OF LAWS AND THE LAWS OF THE SEA

Part Eighteen has traversed an extensive and technically complex landscape of maritime law, from the ancient origins of admiralty jurisdiction to the most recent developments in the IMO's GHG regulatory strategy, from the philosophical foundations of the flag state principle to the human rights dimensions of ship recycling in Bangladesh. What emerges from this analysis is a portrait of a legal domain that is simultaneously ancient and urgently contemporary, technically sophisticated and philosophically rich, and whose inadequacy in the Bangladesh context has profound practical consequences for the safety of seafarers, the protection of the marine environment, the development of maritime commerce, and the advancement of social justice for coastal and maritime communities.

The central conclusion of this Part is that the comprehensive reform of Bangladesh's shipping and maritime commercial law is not a technical nicety but a national imperative. The 1983 Merchant Shipping Ordinance is not merely outdated; it is an obstacle to Bangladesh's participation in the global maritime economy on equitable and lawful terms. The absence of ratification of key international conventions, including the MLC, the Hong Kong Convention, the CLC and Fund Convention, the Nairobi Convention, and the 1993 Maritime Liens Convention, leaves Bangladesh legally exposed and commercially disadvantaged. And the institutional fragmentation of maritime governance, the limited capacity of the maritime administration, and the gap between formal legal standards and actual practice create conditions in which the law's protection of seafarers, coastal communities, and the marine environment is systematically inadequate.

The jurisprudential perspective that has informed this commentary throughout argues that law is not merely a technical instrument for the regulation of economic activity. It is an expression of values, a reflection of the distribution of power, and a mechanism for the advancement or the retardation of justice. The maritime law of Bangladesh, as it stands today, expresses values that are largely inherited from the colonial period, reflects a distribution of power that has historically prioritised the interests of the shipping and recycling industries over the rights of seafarers and coastal communities, and has failed to advance the cause of social and environmental justice in the maritime domain.

The reform agenda outlined in this Part is ambitious. It will require sustained political will, significant institutional investment, and the engagement of a wide range of actors including the maritime administration, the shipping industry, the seafarers' unions, the environmental community, and the academic and legal professions. It will require Bangladesh to build the technical capacity to participate effectively in international maritime governance forums including the IMO, to ratify and implement the full range of applicable international conventions, and to develop the institutional infrastructure for effective maritime governance at the national and regional levels. And it will require Bangladesh to engage seriously with the philosophical and political dimensions of maritime governance, including the distributional questions about who benefits from the blue economy and who bears its costs, and the human rights questions about the dignity and safety of the workers who make the maritime economy possible.

The sea has always been a space of both opportunity and danger, of both freedom and law. For Bangladesh, a nation whose destiny is inseparably connected with the Bay of Bengal, the governance of that sea, and the law that governs the ships that sail upon it, is not a marginal policy concern but a central dimension of national identity, security, and development. The reforms proposed in this Part and throughout this commentary are offered in the conviction that better maritime law means better lives for the millions of Bangladeshis whose prosperity, safety, and future depend on the sea.

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PART NINETEEN

THE JURISPRUDENCE OF STATE RESPONSIBILITY FOR MARITIME HARM, THE LAW OF THE SEA IN THE ANTHROPOCENE, BASELINE STABILITY IN AN ERA OF SEA-LEVEL RISE, HUMAN RIGHTS AT SEA, THE REFORM OF UNCLOS AND THE INTERNATIONAL SEABED AUTHORITY, AND BANGLADESH'S COMPREHENSIVE CONSTITUTIONAL AND LEGISLATIVE PROGRAMME FOR A SOVEREIGN BLUE FUTURE

A COMMENTARY ON INTERNATIONAL RESPONSIBILITY, CLIMATE JURISPRUDENCE, COASTAL COMMUNITY RIGHTS, DIGITAL MARITIME GOVERNANCE, GEOPOLITICAL COMPETITION IN THE BAY OF BENGAL, AND THE PHILOSOPHICAL FOUNDATIONS OF OCEAN SOVEREIGNTY IN THE TWENTY-FIRST CENTURY

PREFACE TO PART NINETEEN

The eighteen parts that have preceded this commentary constitute, taken together, a panoramic examination of the law of the sea as it bears upon Bangladesh. They have traced the history of maritime legal philosophy from the ancient world to the present day, dissected the architecture of UNCLOS and its implementation in Bangladeshi domestic law, analysed the jurisprudence of maritime boundary delimitation, the governance of fisheries and marine living resources, the

regulation of offshore energy, the protection of the marine environment, the governance of maritime commerce and shipping, the rights of seafarers, the regime of the high seas and the emerging architecture of the BBNJ Agreement, and the institutional mechanisms through which Bangladesh exercises and must exercise its maritime sovereignty. The ground traversed is vast, and the conclusions are consistent: Bangladesh possesses a rich and legally confirmed maritime domain, but the domestic legal, institutional, and constitutional framework for its governance remains incomplete, inconsistent, and in important respects inadequate to the demands of the present moment, let alone the challenges that lie ahead.

This nineteenth part undertakes a different kind of work. It moves from the primarily doctrinal and institutional analysis of preceding parts toward a more integrated consideration of the legal and philosophical frameworks that must underpin any genuinely comprehensive reform of Bangladesh's maritime governance. It examines the doctrine of state responsibility for maritime harm, a doctrine whose importance has been elevated enormously by the 2024 ITLOS and 2025 ICJ Advisory Opinions on climate change, and considers what it means for Bangladesh both as a potential claimant against major emitting states and as a state that bears its own obligations of due diligence in the marine environment. It examines the revolutionary jurisprudence of baseline stability in an era of sea-level rise, a question that is existentially important for Bangladesh as a deltaic state facing the loss of coastal land to rising seas, and analyses the 2025 ICJ Advisory Opinion's landmark conclusion that states are under no obligation to update their maritime baselines and outer limits in the face of climate-driven coastal change. It considers the intersection of the law of the sea with the international law of human rights, examining the rights of coastal fishing communities, indigenous peoples, and marginalised coastal populations whose claims against the state are increasingly expressed in the language of international human rights law. It examines the emerging challenge of artificial intelligence, autonomous maritime systems, and digital transformation for the legal framework of maritime governance. It analyses the ongoing crisis in deep seabed governance and the calls for reform of the International Seabed Authority. It engages with the geopolitics of the Bay of Bengal in 2026, where the strategic competition between major powers is reshaping the environment within which Bangladesh must exercise its maritime sovereignty. And it synthesises all of these threads into a comprehensive constitutional and legislative reform agenda for Bangladesh, the most ambitious and detailed such agenda that this commentary has yet proposed.

The unifying philosophical thread of this Part is the concept of responsibility. Responsibility in international law is a concept with multiple dimensions. It encompasses the responsibility of states for internationally wrongful acts, including the breach of obligations owed to other states and to the international community as a whole. It encompasses the responsibility of states for the marine environmental consequences of their activities, including the responsibility that the 2024 and 2025 Advisory Opinions have confirmed extends to the management of greenhouse gas emissions. It encompasses the responsibility of Bangladesh, as a state with a confirmed maritime domain, for the governance of that domain in accordance with its international obligations and in the interests of its population and of the global commons. And it encompasses the political and moral responsibility of Bangladesh's lawmakers, courts, and institutions to build the legal architecture that the twenty-first century demands. Responsibility, in this comprehensive sense, is what this Part is about.

CHAPTER 1: THE DOCTRINE OF STATE RESPONSIBILITY IN THE LAW OF THE SEA: ORIGINS, ARCHITECTURE, AND CONTEMPORARY APPLICATION

1.1 The Historical Foundations of State Responsibility in International Law

The doctrine of state responsibility is one of the oldest and most fundamental doctrines of international law. It rests on the proposition that states, as subjects of international law, bear legal obligations toward other states and toward the international community, and that the breach of those obligations gives rise to legal consequences including the obligation to cease the wrongful conduct, to offer appropriate assurances of non-repetition, and to make full reparation for the injury caused. This proposition is ancient in its philosophical roots, traceable to the natural law tradition of Grotius and Vattel, but it has been developed and codified through centuries of diplomatic practice, international arbitral decisions, and, most comprehensively, through the work of the International Law Commission.

The Grotian tradition, as examined in Part One of this commentary, grounded international legal obligation in the natural law, in the rational nature of states as moral agents bound by norms of right reason that no sovereign could legitimately ignore. Vattel, elaborating this tradition in the eighteenth century, spoke of states' obligations of perfect and imperfect duty, distinguishing between obligations whose breach gave rise to a right of legal remedy and obligations that were binding in conscience but not enforceable by legal action. The nineteenth century saw the development of state responsibility through the practice of claims commissions established under bilateral treaties to adjudicate disputes arising from injuries to the persons and property of nationals of one state on the territory of another. The Alabama Claims Arbitration of 1872, the Corfu Channel case before the ICJ in 1949, and the numerous arbitrations of the mixed claims commissions of the late nineteenth and early twentieth centuries built up a body of practice and principle that identified the conditions for state responsibility, the standard of wrongfulness, and the content of the obligation to repair.

The International Law Commission undertook systematic codification of the law of state responsibility from the late 1950s onward. The work was long and contentious, reflecting fundamental disagreements about the nature of international legal obligation, the distinction between primary rules establishing substantive obligations and secondary rules governing the consequences of their breach, and the treatment of the most grave breaches of international law, which some commissioners proposed should be characterised as international crimes. After more than four decades of drafting, debate, and revision, the Commission adopted the Articles on Responsibility of States for Internationally Wrongful Acts in 2001. The General Assembly commended the Articles to the attention of governments in Resolution 56/83 of 12 December 2001. The Articles are not a binding treaty, but they are widely regarded as the most authoritative codification of customary international law on state responsibility, and they have been repeatedly cited by the ICJ, ITLOS, and other international tribunals.

The Articles establish that every internationally wrongful act of a state entails the international responsibility of that state. An internationally wrongful act consists of conduct attributable to the

state under international law that constitutes a breach of an international obligation of the state. The attribution of conduct to a state covers the acts and omissions of its organs, of persons or entities exercising governmental authority, and in certain circumstances of other actors whose conduct is under the state's control or direction. The breach of an international obligation may be a breach of a conventional obligation, a breach of a customary international law obligation, or a breach of a general principle of international law. And the consequences of an internationally wrongful act include the obligation of cessation and non-repetition, and the obligation of full reparation, which may take the form of restitution, compensation, or satisfaction.

1.2 State Responsibility in the Maritime Context: The Specific Framework

The application of the general doctrine of state responsibility to the maritime context involves the intersection of the secondary rules of the Articles with the primary rules established by UNCLOS and other conventions, as well as the rules of customary international law of the sea. UNCLOS itself contains provisions that both establish primary obligations and address the consequences of their breach, creating a self-contained regime in some respects that must be understood in its relationship to the general framework of the Articles.

Several categories of state responsibility in the maritime context deserve particular attention. The first is the responsibility of flag states for the acts of vessels flying their flag. UNCLOS imposes substantial obligations on flag states with respect to the safety, seaworthiness, and environmental performance of vessels registered under their flag, and Article 94 of UNCLOS sets out the duties of the flag state in detail. Where a flag state fails to exercise proper jurisdiction and control over vessels flying its flag, and those vessels cause harm to other states or to the marine environment, the flag state may bear international responsibility for that harm under the doctrine of state responsibility. The ITLOS Advisory Opinion of 2011 on flag state responsibility, and the subsequent cases that have elaborated it, have been discussed in earlier parts of this commentary; in the present context the focus is on the implications for Bangladesh, both as a flag state and as a state that regularly suffers harm from the activities of foreign-flagged vessels in its maritime zones.

The second category is the responsibility of states for pollution of the marine environment. Part XII of UNCLOS imposes comprehensive obligations on all states to prevent, reduce, and control marine pollution, and the breach of these obligations can give rise to state responsibility under the general framework of the Articles. The content of these obligations has been significantly clarified by the 2024 ITLOS Advisory Opinion and the 2025 ICJ Advisory Opinion, which are examined in depth later in this Part. For Bangladesh, the responsibility of other states for marine pollution affecting its maritime zones is a matter of direct practical importance, given the vulnerability of the Bay of Bengal to pollution from shipping, from coastal industrial activities of neighbouring states, from the transboundary impacts of river-borne pollution, and from the cumulative effects of climate change-induced marine environmental degradation.

The third category is the responsibility of states for violations of the UNCLOS framework of maritime zones and the rights of coastal states within those zones. Unlawful fishing in Bangladesh's EEZ, failure to respect Bangladesh's sovereign rights over the continental shelf, interference with Bangladesh's marine scientific research jurisdiction, and failure to pay prompt

and adequate compensation for environmental harm caused in Bangladesh's maritime zones can all give rise to the responsibility of the offending state under international law. The practical challenge is translating this responsibility into effective remedies, a challenge that is examined in the discussion of dispute settlement and enforcement later in this chapter.

1.3 The Standard of Due Diligence and the Maritime Obligation of Prevention

One of the most important and contested aspects of state responsibility in the maritime context is the standard of due diligence that governs the obligation to prevent marine harm. UNCLOS Article 194(1) requires states to take all measures consistent with the Convention that are necessary to prevent, reduce, and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities. This formulation introduces the concept of due diligence, the obligation not of result but of conduct, the obligation to take appropriate measures rather than the obligation to ensure that no harm occurs.

The standard of due diligence is familiar in international environmental law, having been developed in the Trail Smelter Arbitration of 1941, the Corfu Channel case of 1949, and numerous subsequent decisions. It requires states to act with the level of care and vigilance that a responsible government would exercise in the circumstances, taking account of the risks involved, the technology available, and the state's own capabilities. It is not a static standard; it evolves with the development of scientific knowledge about risks and the availability of technologies for their mitigation.

The 2024 ITLOS Advisory Opinion made a crucial contribution to the understanding of due diligence in the maritime context by confirming that the obligation to prevent marine pollution under UNCLOS encompasses obligations of prevention, reduction, and control with respect to greenhouse gas emissions from activities within the state's territory and jurisdiction, as well as activities on the high seas. The Tribunal held that the due diligence standard in this context requires states to adopt and implement the best available scientific information, to apply the precautionary approach, and to use the best available technology. Critically, it confirmed that the appropriate standard of due diligence is the highest available standard, which in the climate context means that states must achieve at minimum the emissions reduction targets they have committed to under the Paris Agreement, and must use best efforts to exceed those targets.

For Bangladesh, this elevated standard of due diligence has implications in both directions. As a claimant, it strengthens the basis on which Bangladesh can argue that major emitting states have breached their UNCLOS obligations by failing to take adequate measures to reduce greenhouse gas emissions that contribute to the acidification, warming, and rising of the seas adjacent to Bangladesh's coast. As a respondent, it means that Bangladesh's own domestic policies on emissions reduction, energy governance, and the management of land-based sources of marine pollution must meet the highest available standard in the context of Bangladesh's capabilities, taking account of its status as a developing country.

1.4 Reparation for Maritime Harm: Forms, Challenges, and the Bangladesh Interest

The obligation of reparation for internationally wrongful acts takes three principal forms under the Articles on State Responsibility: restitution, compensation, and satisfaction. Restitution means the re-establishment of the situation that existed before the wrongful act was committed. Compensation means the payment of a sum of money corresponding to the damage caused by the wrongful act, including financial loss, loss of profits, and other economically assessable harm. Satisfaction means the acknowledgment of the breach, an expression of regret, a formal apology, or other appropriate modality where restitution and compensation are not sufficient.

In the maritime context, the practical scope for restitution is often limited: the damage caused by marine pollution, by illegal fishing, or by climate-driven environmental degradation cannot generally be undone by restoring the pre-existing situation. The primary form of reparation in practice is therefore compensation, supplemented where appropriate by satisfaction. But the determination of compensation for maritime harm raises enormously complex questions. How does one calculate the economic value of fish stocks that have been depleted by IUU fishing? How does one quantify the harm caused by the bleaching of coral reefs due to ocean warming? How does one value the loss of coastal land to sea-level rise, taking account of its resource value, its habitat function, its cultural significance to coastal communities, and its role in maintaining the baselines from which maritime zones are measured?

These valuation questions are not merely technical; they are philosophical, and they connect with deep debates about the nature of value, the commensurability of different kinds of harm, and the adequacy of monetary compensation as a response to ecological loss. The concept of ecosystem services, developed in the ecological economics literature, attempts to translate the non-market values of marine ecosystems into monetary terms for the purposes of legal assessment, but the methodology is contested and the results are highly sensitive to the assumptions made. The concept of natural capital, which treats environmental assets as a form of capital whose depletion diminishes long-term productive capacity, offers a different but related framework. And the concept of loss and damage, which has been introduced into the international climate negotiations through the Warsaw Mechanism of 2013 and the Santiago Network of 2019, attempts to address forms of harm, including non-economic losses such as cultural heritage, traditional knowledge, and communal identity, that resist monetisation.

Bangladesh has been a leading advocate in international climate negotiations for the establishment of effective loss and damage mechanisms, recognising that the most severe consequences of climate change for Bangladesh's coastal communities are precisely those non-economic losses that cannot be fully addressed by compensation or restitution in the traditional sense. The 2024 ITLOS and 2025 ICJ Advisory Opinions, by confirming that the marine environmental consequences of climate change constitute harms for which major emitting states bear international legal responsibility, strengthen the international legal framework within which loss and damage claims can be advanced. The development of a coherent legal strategy for advancing Bangladesh's loss and damage claims, grounded in the doctrine of state responsibility and the jurisprudence of the two advisory opinions, is one of the most important tasks for Bangladesh's international legal diplomacy.

1.5 The Trail Smelter Principle, the Corfu Channel Case, and Their Maritime Legacy

The two foundational principles of international environmental responsibility, the no-harm principle and the duty of vigilance, find their canonical expression in the Trail Smelter Arbitration of 1941 and the Corfu Channel case of 1949. Both cases have enduring significance for the law of state responsibility in the maritime context, and their influence can be traced through the entire subsequent development of international environmental law, including the UNCLOS framework.

The Trail Smelter case arose from the transboundary air pollution caused by a zinc smelter in British Columbia whose sulphur dioxide emissions caused significant damage to agricultural land in the state of Washington. The arbitral tribunal held that under the principles of international law no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence. This no-harm principle, expressed in terms of territorial sovereignty and the duty to use one's own territory in a manner that respects the rights of other states, has become the bedrock of international environmental law and has been repeatedly affirmed by the ICJ and other international tribunals.

The Corfu Channel case arose from the mining of the Corfu Channel by Albania, which caused severe damage to British warships. The ICJ held that every state has an obligation not to allow knowingly its territory to be used for acts contrary to the rights of other states. The concept of knowledge, and the related concept of constructive knowledge, has become important in the development of the due diligence standard: a state cannot escape responsibility for harm caused from its territory by claiming ignorance of activities it should have known about, if a responsible government exercising appropriate vigilance would have discovered them.

Both the Trail Smelter principle and the Corfu Channel duty of vigilance have direct application to Bangladesh's maritime situation. Bangladesh is suffering serious harm to its maritime environment from transboundary pollution, from the activities of foreign-flagged vessels in its maritime zones, and above all from the cumulative effects of climate change caused by the industrial activities of major emitting states whose greenhouse gas emissions cause the ocean warming, acidification, and sea-level rise that threaten Bangladesh's coastal communities and marine ecosystems. The challenge for Bangladesh is to operationalise these principles in the specific context of climate change and maritime environmental harm, drawing on the 2024 and 2025 Advisory Opinions to build the legal infrastructure for effective claims.

1.6 Investor-State Arbitration, the Law of the Sea, and Bangladesh's Resource Governance

The intersection of international investment law and the law of the sea creates a further dimension of state responsibility that is directly relevant to Bangladesh's governance of its maritime resources. When Bangladesh grants concessions for the exploration and exploitation of offshore hydrocarbons to foreign investors, it undertakes obligations under investment treaties, production sharing contracts, and general international investment law to provide fair and equitable treatment, protection against expropriation without compensation, and a stable regulatory framework. At the same time, Bangladesh retains, as a matter of international environmental law and UNCLOS, the right and duty to regulate offshore activities for

environmental protection purposes. The tension between these investment protection obligations and environmental regulatory obligations has been a source of significant legal controversy in the investment arbitration context.

The Philip Morris v. Australia case, the Vattenfall cases against Germany, and the numerous investor-state arbitrations arising from the energy transition in European countries have all raised, in varying degrees, the question of whether states that adopt environmental regulations in response to their international environmental obligations can be held liable to investors for the economic consequences of those regulations. The answer provided by investment tribunals has been inconsistent, and the tension between investment protection and environmental regulation remains unresolved at the level of general principle.

For Bangladesh, this tension is particularly acute in the context of the offshore energy transition. If Bangladesh adopts more stringent environmental regulations for offshore hydrocarbon operations in response to its obligations under UNCLOS, the Paris Agreement, and the obligations confirmed by the 2024 and 2025 Advisory Opinions, foreign investors in offshore hydrocarbon concessions may argue that these regulatory changes constitute indirect expropriation or breach of fair and equitable treatment. Bangladesh's production sharing contracts and bilateral investment treaties need to be reviewed to ensure that they adequately protect Bangladesh's right to regulate for environmental purposes without creating undue liability exposure. This review should be an element of the comprehensive legislative reform agenda proposed later in this Part.

CHAPTER 2: THE ARTICLES ON STATE RESPONSIBILITY AND THEIR APPLICATION TO SPECIFIC MARITIME OBLIGATIONS OF BANGLADESH

2.1 Attribution of Conduct in the Maritime Context

The attribution of conduct to the state is the first element of state responsibility under the Articles. In the maritime context, attribution raises specific questions that do not arise in the straightforward case of action by state organs. The activities of national shipping companies, fishing enterprises, and offshore energy operators are not, in general, the acts of state organs, and cannot be attributed to the state merely on the basis that they are conducted by nationals or legally established entities. However, where the state has authorised, facilitated, or failed to prevent such activities in circumstances where it had an obligation to prevent the relevant harm, the state may bear responsibility on the basis of the Corfu Channel duty of vigilance or on the basis of the due diligence standard established by UNCLOS and the Advisory Opinions.

The state's own agencies, including the coast guard, the navy, maritime safety authorities, and environmental enforcement bodies, are state organs whose acts and omissions are fully attributable to the state. Where Bangladesh's coast guard fails to take measures to prevent illegal dumping of oil in the Bay of Bengal by vessels within its enforcement jurisdiction, where Bangladesh's environmental agency fails to monitor and control land-based sources of marine pollution in accordance with the standards required by UNCLOS Part XII, or where

Bangladesh's fisheries authority fails to enforce the fishing regulations that its international obligations require, these failures are attributable to Bangladesh as an internationally wrongful act if they result in harm to other states or to the marine environment.

The complex problem of private actors and their relationship to state responsibility in the maritime context is well illustrated by the ship-breaking industry at Sitakunda, discussed in Part Fifteen of this commentary. The environmental and safety failures of ship-breaking operators at Sitakunda are not directly attributable to the Bangladeshi state, but Bangladesh has an obligation under UNCLOS, the Hong Kong Convention, the Basel Convention, and general principles of international environmental law to regulate these activities effectively, and the systematic failure of regulation creates a basis for state responsibility claims by states whose vessels are broken in conditions that cause transboundary environmental harm. The domestic legislative reform agenda must address this regulatory gap, both as a matter of compliance with international obligations and as a matter of protection against international responsibility claims.

2.2 The Circumstances Precluding Wrongfulness: Force Majeure, Necessity, and Countermeasures

The Articles on State Responsibility provide for certain circumstances that preclude the wrongfulness of otherwise impermissible conduct. The most relevant of these for Bangladesh's maritime situation are necessity and force majeure. The circumstances precluding wrongfulness do not eliminate the primary obligation or the underlying harm; they merely remove the character of wrongfulness from the conduct in the specific circumstances, without prejudice to the obligation to make reparation for any material loss caused.

Necessity, as defined in Article 25 of the Articles, is the only way for the state to safeguard an essential interest against a grave and imminent peril, provided that the act does not seriously impair an essential interest of the state or states toward which the obligation exists, or of the international community as a whole. The potential application of necessity in the maritime environmental context has been discussed in the scholarly literature in connection with desperate measures taken by states facing severe environmental crises. For Bangladesh, the question of whether the existential threat of sea-level rise, coastal erosion, and climate-induced environmental degradation might justify measures that would otherwise breach Bangladesh's international obligations, such as the construction of protective structures beyond baselines in ways that might affect navigation rights, requires careful legal analysis. The consensus of legal scholarship is that the necessity plea is available only in genuinely extreme circumstances and is subject to strict conditions, but the circumstances confronting Bangladesh and other highly vulnerable states are precisely those in which this analysis becomes practically relevant.

Force majeure, defined in Article 23 of the Articles, excuses a state from compliance with an international obligation where the compliance is materially impossible due to an irresistible force or an unforeseen event beyond the state's control. In the maritime context, force majeure might excuse Bangladesh from compliance with certain navigational safety obligations in the event of a catastrophic cyclone that destroys navigational infrastructure, but it does not provide a general excuse for the systematic failure to implement maritime governance obligations, which is a

matter of political will, institutional capacity, and resource allocation rather than of irresistible force.

2.3 Countermeasures and Their Application in the Maritime Context

Countermeasures are measures taken by an injured state against the state responsible for an internationally wrongful act, measures that would otherwise be internationally wrongful but are justified by the prior wrongful act of the responsible state. The Articles permit countermeasures subject to conditions including the requirements that they must be designed to induce compliance with international obligations, must be proportionate to the injury suffered, must not involve the use of force or violations of peremptory norms, and must be preceded by a notification and offer to negotiate.

In the maritime context, Bangladesh might in principle invoke countermeasures in response to systematic IUU fishing by nationals of another state in its EEZ, by refusing to process the vessels of that state's flag in its ports under the framework of port state control. However, the application of countermeasures in the specific context of maritime enforcement is constrained by the detailed provisions of UNCLOS on enforcement jurisdiction, flag state duties, and port state control, which create a specific legal framework within which enforcement measures must be taken. The relationship between the general framework of countermeasures and the specific UNCLOS enforcement framework is complex and has not been fully clarified in the jurisprudence.

For Bangladesh's specific situation, the most practically important context in which countermeasures might arise is in the context of climate change responsibility. The 2024 and 2025 Advisory Opinions have confirmed that major emitting states are in breach of their UNCLOS obligations through the inadequate regulation of greenhouse gas emissions. If Bangladesh wished to invoke this breach as justification for countermeasures against a particular major emitting state, it would face the challenge of identifying proportionate and reversible measures that would induce compliance without themselves breaching peremptory norms. This is an area of legal theory more than current practical law, but as the impacts of climate change intensify and the frustration of climate-vulnerable states deepens, the question of countermeasures in the climate context is one to which Bangladesh's international legal diplomacy should give sustained attention.

CHAPTER 3: CLIMATE CHANGE, SEA-LEVEL RISE, AND THE STABILITY OF MARITIME BASELINES: THE JURISPRUDENTIAL REVOLUTION OF 2025

3.1 The Problem of Ambulatory Baselines: A Threat to Bangladesh's Maritime Existence

The relationship between sea-level rise and maritime baselines is, for Bangladesh, no abstract legal question. It is a question with potentially existential implications. Bangladesh's vast and dynamic coastline, composed of the shifting sands of the Ganges-Brahmaputra-Meghna delta, is in constant transformation. Sea-level rise, which current scientific projections estimate will amount to between 0.3 and 1 metre by the end of the century under moderate scenarios, and

potentially 2 metres or more under high-end scenarios, threatens to permanently inundate significant areas of Bangladesh's coastal zone. The Sundarbans, the low-lying coastal islands of the Meghna estuary, and the south-central coastal belt are among the most vulnerable areas. As these lands are lost to rising seas, the question of what happens to the baselines from which Bangladesh measures its territorial sea, EEZ, and continental shelf is of the most profound legal significance.

Under the traditional interpretation of UNCLOS, the baseline is the low-water line along the coast, which is an ambulatory line that shifts with the actual low-water position of the coastline. On this ambulatory interpretation, if the coast recedes due to sea-level rise, the baseline recedes with it, and the maritime zones measured from the baseline shrink correspondingly. For Bangladesh, whose coastal areas are particularly vulnerable to inundation, an ambulatory interpretation of baselines could result in the progressive shrinkage of Bangladesh's territorial sea and ultimately of its EEZ, with a corresponding reduction in the resource rights, jurisdiction, and maritime sovereignty that Bangladesh has expended enormous diplomatic and legal effort to establish and confirm.

The ambulatory interpretation of baselines is grounded in the textual reading of UNCLOS Article 5, which defines the normal baseline as the low-water line along the coast as marked on large-scale charts officially recognised by the coastal state. This textual formulation does not explicitly address what happens when the low-water line shifts due to sea-level rise; it simply refers to the low-water line as the baseline. On the ambulatory interpretation, as the low-water line shifts, the baseline shifts, and the maritime zones shift with it. This interpretation is consistent with the ordinary meaning of the text, but its consequences for vulnerable coastal states are severe.

The alternative interpretation, which has been advanced by the International Law Association's Committee on International Law and Sea Level Rise, by several developing coastal states, and by the scholarship of scholars including David Freestone and Clive Schofield, is that baselines, once lawfully established and deposited with the Secretary-General of the United Nations in accordance with UNCLOS, are fixed and do not shift ambulatorily with changes in the physical coastline. On this fixed baseline interpretation, Bangladesh's baselines, once established in conformity with UNCLOS, would remain in place as the legal reference lines for the outer limits of Bangladesh's maritime zones even as the physical coastline retreats due to sea-level rise.

3.2 The 2025 ICJ Advisory Opinion: Baseline Stability Confirmed as a Matter of International Law

The ICJ's Advisory Opinion of 23 July 2025, delivered pursuant to the United Nations General Assembly Resolution 77/276 on the obligations of states in respect of climate change, has provided authoritative resolution of the ambulatory baseline debate. The Court considered, as part of its comprehensive analysis of the relationship between climate change and international law, the specific question of whether states parties to UNCLOS are required to update their charts or lists of geographical coordinates showing baselines and outer limit lines of their maritime zones in response to sea-level rise. The Court's answer was clearly and definitively negative.

The Court held, as confirmed by the Columbia Climate Law Blog analysis of August 2025, that the provisions of UNCLOS do not require states parties, in the context of physical changes resulting from climate-change-related sea-level rise, to update their charts or lists of geographical coordinates that show the baselines and outer limit lines of their maritime zones once those limits have been duly established in conformity with the Convention. States parties to UNCLOS are therefore under no obligation to update such charts or lists of geographical coordinates. This is, as the BCOLP analysis of September 2025 characterised it, a judicial affirmation that transforms what had been state practice, scholarly argument, and soft law declarations into authoritative international legal authority.

The significance of this holding for Bangladesh can hardly be overstated. It means that the baselines and outer limits of Bangladesh's maritime zones, once lawfully established, deposited, and published in conformity with UNCLOS, are legally stable in the face of climate-driven coastal change. Bangladesh's territorial sea, EEZ, and continental shelf boundaries, as defined by the ITLOS judgment of 2012 and the PCA Award of 2014, and as incorporated into Bangladesh's domestic law through the Territorial Waters and Maritime Zones (Amendment) Act of 2021, are legally fixed and are not required to be updated or redrawn as Bangladesh's coastline physically retreats due to sea-level rise.

This holding must be carefully distinguished from the physical reality. Sea-level rise will continue to inundate Bangladesh's coastal areas, to destroy agricultural land and settlements, to damage ecosystems and infrastructure, and to reduce the habitability of coastal regions. The legal stability of baselines does not prevent the physical loss of coastal land; it merely protects Bangladesh's maritime legal entitlements from the compound injury of losing both physical territory and maritime jurisdiction. Bangladesh will continue to suffer the physical consequences of climate change, but its maritime sovereignty, as expressed in the outer limits of its maritime zones, will not be reduced merely because the coastline retreats.

3.3 The Philosophical Foundations of Baseline Stability: Sovereignty, Justice, and the Principle of Legal Continuity

The judicial affirmation of baseline stability represents a profound philosophical choice between competing conceptions of international law. The ambulatory interpretation reflects a positivist literalism that would read UNCLOS's reference to the low-water line as necessarily creating a dynamic, changing legal reference line. The fixed interpretation reflects a principle of legal continuity that resists the automatic legal diminution of sovereign rights in consequence of physical changes caused not by the sovereign's own acts but by the acts of others.

From the perspective of corrective justice, the principle of baseline stability is strongly supported. Bangladesh's maritime zones represent rights that Bangladesh has lawfully acquired through ratification of UNCLOS, through decades of diplomatic advocacy in the law of the sea negotiations, and through the successful prosecution of its maritime boundary claims in international arbitration. To extinguish these rights through the ambulatory interpretation, in circumstances where the sea-level rise that would cause the baseline to shift is itself caused by the greenhouse gas emissions of major industrialised states, would compound the original wrong with a further legal injustice. The principle that no state should benefit from its own wrongful

acts, nemo ex sua turpitudine commodum capere potest, supports the conclusion that the major emitting states whose emissions cause sea-level rise should not thereby automatically acquire additional maritime freedoms at Bangladesh's expense through the shrinkage of Bangladesh's maritime zones.

From the perspective of the natural law tradition, the principle of baseline stability also finds support. The maritime zones of states under UNCLOS represent not arbitrary allocations but equitable entitlements grounded in the relationship between coastal states and the adjacent sea. The relationship between Bangladesh and the Bay of Bengal, shaped by centuries of history, ecology, economy, and culture, does not change because the physical coastline retreats due to externally caused climate change. The moral claim of Bangladesh to exercise jurisdiction over the adjacent sea area remains constant even as the physical expression of that claim in the form of a visible coastline diminishes.

Carl Schmitt's concept of the nomos of the earth, which grounds the legal order in the concrete spatial order of land and sea, offers an interesting perspective here. For Schmitt, the fundamental legal order is constituted by the appropriation of land and the delimitation of boundaries, which establish the spatial foundation of the legal community. The challenge of climate change to maritime boundaries disrupts this Schmittian spatial foundation, not through an act of appropriation by any state but through the physical consequences of the industrial activities of the global economy. The legal system's response, in the form of the judicial affirmation of baseline stability, is to protect the spatial foundation of the legal order from disruption through mechanisms of legal continuity, insulating the established legal order from the most severe physical consequences of the climate crisis.

3.4 The Statehood Question and Bangladesh's Constitutional Identity

Closely related to the baseline stability issue is the question of whether a state can continue to exist as a state under international law if its territory becomes entirely inundated by sea-level rise. For Bangladesh, the most extreme climate scenarios raise the prospect not merely of losing coastal territory but of losing a significant proportion of the habitable land area. While Bangladesh as a whole is not at existential risk in the same way as low-lying atoll states like Tuvalu, Kiribati, and the Maldives, the loss of the coastal zone would represent a national catastrophe of the highest order and would raise profound questions about the future of the Bangladeshi state.

The 2025 ICJ Advisory Opinion addressed the statehood question directly, concluding that international law supports a strong presumption in favour of the continuity of statehood in the face of climate-induced territorial loss. The Court noted that the Montevideo Convention criteria for statehood, including a permanent population, a defined territory, an effective government, and the capacity to enter into relations with other states, should not be mechanically applied in a manner that extinguishes the statehood of entities whose territory becomes submerged due to climate change for which they bear no significant responsibility. This conclusion supports the arguments advanced by SIDS in the UNCLOS context, and it provides constitutional protection for the sovereign existence of vulnerable states against the worst implications of climate change.

For Bangladesh, the practical implication of this jurisprudential development is that the international legal system will not treat the loss of coastal territory to sea-level rise as automatically extinguishing Bangladesh's sovereign status or its maritime entitlements. This is legally reassuring, but it does not diminish the urgency of domestic adaptation measures, coastal protection investments, and population relocation strategies that are needed to manage the actual physical consequences of sea-level rise for Bangladesh's coastal communities.

3.5 Implications for Bangladesh's Domestic Legal Framework: The Need for Baseline Stability Legislation

The ICJ Advisory Opinion's affirmation of baseline stability creates an opportunity and an obligation for Bangladesh to incorporate the principle of baseline stability explicitly into its domestic maritime law. The current Territorial Waters and Maritime Zones (Amendment) Act of 2021 does not specifically address the relationship between sea-level rise and the legal status of Bangladesh's baselines and outer limit lines. This is a gap that should be addressed in the next phase of legislative reform.

The legislative provision needed is relatively straightforward in its essential content, though it requires careful drafting to ensure consistency with the ICJ Advisory Opinion and with Bangladesh's rights and obligations under UNCLOS. The provision should state that the baselines and outer limits of Bangladesh's maritime zones, once established and deposited in accordance with UNCLOS, are legally fixed and do not require updating or revision by reason of any physical change in the coastline resulting from sea-level rise, tidal action, sediment change, or any other cause. The provision should also specifically confirm the legal stability of St. Martin's Island and any other maritime features whose legal status as islands generating maritime zones has been confirmed, against any future argument that rising sea levels might alter their status.

The provision should further establish a statutory framework for the periodic review and, where necessary, the revision of baselines in response to physical changes that result from actions within Bangladesh's own control, such as land reclamation, port construction, or the deliberate alteration of the coast, while specifically excluding climate-driven changes from the category of changes that trigger an obligation to revise baselines. This distinction, between self-generated changes and externally imposed changes, is both legally sound under the ICJ Advisory Opinion and practically important for Bangladesh's maritime governance.

CHAPTER 4: HUMAN RIGHTS AT SEA: THE INTERSECTION OF THE LAW OF THE SEA AND THE INTERNATIONAL LAW OF HUMAN RIGHTS

4.1 The Historical Separation and Its Limitations

The law of the sea and the international law of human rights developed largely in parallel throughout the twentieth century, with relatively limited interaction at the doctrinal level. The law of the sea, as embodied in UNCLOS, is primarily a framework for the allocation of maritime

jurisdiction among states, the governance of maritime activities, and the management of marine resources. Its focus is on inter-state relations, on the rights and duties of states toward each other and toward the international community, rather than on the rights of individuals and groups within states. The international law of human rights, as embodied in the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, and the extensive network of human rights treaty bodies, is primarily a framework for the protection of individuals against the arbitrary exercise of state power.

This structural separation has meant that many of the most significant maritime human rights issues have fallen between the two bodies of law, addressed inadequately or not at all by either. The rights of seafarers, examined in Parts Fifteen and Eighteen of this commentary, were addressed primarily through the specific ILO and IMO frameworks rather than through the general human rights framework, though the Maritime Labour Convention of 2006 has significantly improved the human rights protections available to maritime workers. The rights of fishing communities against displacement, environmental degradation, and the loss of traditional livelihoods have been addressed through a patchwork of fisheries law, coastal zone management law, and in some jurisdictions through constitutional environmental rights, but not through a coherent human rights framework. The rights of asylum seekers and irregular migrants rescued at sea, or intercepted by maritime patrols, have been the subject of intense controversy and inadequate legal protection, raising fundamental questions about the relationship between the maritime interdiction powers of states and their non-refoulement obligations under international refugee and human rights law.

4.2 The Emerging Framework of Human Rights at Sea

Since the early 2000s, there has been a growing recognition in the legal literature and in the practice of international institutions that the law of the sea and the international law of human rights must be more systematically integrated. The work of the UNHCR, the IMO, and various academic institutions has contributed to the development of guidelines and principles for the treatment of persons in distress at sea, the rescue of migrants, and the protection of human rights in maritime contexts. The Human Rights at Sea NGO, established in 2014, has contributed to the documentation and advocacy of human rights issues in the maritime domain. And a series of judicial and quasi-judicial decisions have confirmed that human rights obligations apply to state action in the maritime domain, including in the EEZ and even in some circumstances on the high seas.

The Inter-American Court of Human Rights Advisory Opinion of 2017 on the rights of persons in the context of migration, particularly those at sea, confirmed that the duty of non-refoulement applies to state action at sea, including the interception of irregular migrants in territorial and international waters. The European Court of Human Rights cases of Hirsi Jamaa v. Italy and the subsequent MSS case established that European states bear human rights obligations in relation to persons on vessels under their effective control on the high seas, and that the duty not to return persons to places where they face persecution or inhuman treatment applies to maritime interceptions as well as to territorial asylum procedures.

For Bangladesh, the intersection of human rights and maritime law arises in several specific contexts. The rights of Rohingya refugees who have attempted to cross the Bay of Bengal in small boats, many of whom have been pushed back by both Bangladesh and other regional coast guards, raise acute questions about the application of the non-refoulement principle and the duty to rescue persons in distress at sea in the context of Bangladesh's coast guard operations. The rights of fishing communities whose traditional access to coastal fishing grounds has been restricted by the establishment of marine protected areas, aquaculture concessions, or offshore energy development zones raise questions about the right to a livelihood, the right to an adequate standard of living, and the right to participate in decisions affecting one's way of life. And the rights of coastal communities facing displacement from climate-induced sea-level rise and erosion raise profound questions about the relationship between environmental harm, state obligation, and the international human rights framework.

4.3 The Rights of Coastal Fishing Communities under International Human Rights Law

The traditional fishing communities of Bangladesh's coast represent one of the country's most economically vulnerable and socially marginalised populations. Fishing in the Bay of Bengal has been practised by these communities for centuries, and their livelihoods, their cultural identity, and their social organisation are deeply intertwined with the sea. Yet these communities have been consistently marginalised in the formal governance of Bangladesh's maritime resources. The industrial fishing sector, with its mechanised trawlers and its access to capital and political connections, has displaced artisanal fishing communities from their traditional fishing grounds. The establishment of conservation zones, closed seasons, and gear restrictions, though necessary for the sustainability of fish stocks, has been implemented in ways that have fallen disproportionately on small-scale fishers rather than on the industrial operators most responsible for overfishing. And the development of the blue economy, with its emphasis on large-scale investment and commercial exploitation, threatens to further marginalise the communities whose relationship with the sea is most intimate and most vulnerable.

The international human rights framework provides several legal instruments for the protection of fishing communities' rights. The right to a livelihood is protected under Article 11 of the International Covenant on Economic, Social and Cultural Rights, which recognises the right of everyone to an adequate standard of living and to the continuous improvement of living conditions. The right to participate in the management of natural resources that one depends on for a livelihood is supported by the broader framework of the right to participate in public affairs under Article 25 of the ICCPR and by the specific provisions of the Convention on Biological Diversity and the UNFSA on participatory governance of marine resources. The right of communities to enjoy their own culture, protected by Article 27 of the ICCPR and by the Declaration on the Rights of Indigenous Peoples, is relevant to the cultural dimensions of fishing community identity in Bangladesh, even where formal indigenous status is not claimed.

The UN Declaration on the Rights of Peasants and Other People Working in Rural Areas, adopted by the General Assembly in December 2018, is an important instrument that specifically addresses the rights of fishing communities as a category of rural workers. Article 5 of the Declaration recognises the rights of peasants and other people working in rural areas to have access to, sustainably use, and manage natural resources present in their communities. Article 17

recognises the rights of communities to their traditional lands, fisheries, and other marine resources. And Article 28 recognises the rights of small-scale fishers to fair and remunerative prices, to access to markets, and to a just distribution of the benefits of their labour.

Bangladesh voted in favour of the Declaration on the Rights of Peasants, but it has not incorporated its provisions into domestic law or used them as a framework for governance reform. The integration of the Declaration's provisions into Bangladesh's maritime and fisheries governance framework is an important element of a comprehensive rights-based approach to maritime law reform.

4.4 The Rights of Women in Coastal Fishing Communities

Women in Bangladesh's coastal fishing communities occupy a position of profound economic importance and legal invisibility. Women constitute a substantial proportion of the fishing sector's workforce in the post-harvest activities of fish processing, drying, and marketing, activities that are essential to the conversion of the catch into household income but that are excluded from the formal governance structures of the fisheries sector. Women's property rights in the fishing equipment and boats on which their livelihoods depend are frequently insecure, dependent on customary arrangements rather than formal legal title. Women's participation in the governance of fishing communities, including in the village-level fisheries management committees that have been established in some areas, is often constrained by social norms that exclude women from public decision-making.

The Committee on the Elimination of Discrimination Against Women has repeatedly called upon Bangladesh to address gender discrimination in rural and coastal areas, including in the fisheries sector. The Convention on the Elimination of All Forms of Discrimination Against Women, ratified by Bangladesh in 1984 with reservations to certain provisions, creates obligations of substantive gender equality that extend to the governance of natural resources including fisheries. Articles 14 and 15 of CEDAW specifically address the rights of rural women and are directly applicable to the situation of women in coastal fishing communities.

The feminist jurisprudence of Carol Gilligan, Martha Fineman, and Drucilla Cornell, examined in earlier parts of this commentary from the perspective of fisheries governance theory, continues to be relevant in the human rights context. Gilligan's ethic of care, which emphasises relationships, responsibilities, and the specific vulnerabilities of those who are economically and socially dependent on others, provides a framework for understanding the particular human rights situation of women in fishing communities, who are doubly vulnerable as members of an economically marginalised community and as women within that community whose specific contributions and rights are unrecognised. Fineman's concept of vulnerability, which argues that human vulnerability is a universal condition that the legal system must acknowledge and respond to rather than treating autonomy as the normative baseline, suggests that the human rights framework should be attentive to the specific vulnerabilities of women in coastal communities in ways that go beyond formal equality.

4.5 The Rights of Asylum Seekers and Migrants at Sea: Bangladesh's Position as a State of Origin and Transit

The Bay of Bengal is one of the world's major maritime migration corridors. The Rohingya people, fleeing persecution in Myanmar, have undertaken desperate sea voyages across the Bay of Bengal in search of safety in Bangladesh, Malaysia, Indonesia, and other regional states. The experiences of Rohingya boat people, many of whom have died at sea, been pushed back by coast guards, or been exploited by human traffickers, constitute a human rights crisis that implicates multiple dimensions of the law of the sea and the international law of human rights.

Bangladesh is primarily a country of asylum for Rohingya refugees rather than a country of origin of irregular maritime migration, though there are Bangladeshis who migrate by sea to Malaysia and other Southeast Asian destinations in search of economic opportunity. Bangladesh hosts more than one million Rohingya refugees in the Cox's Bazar district, and the management of this refugee crisis involves complex intersections of maritime law, refugee law, human rights law, and bilateral relations with Myanmar and other states.

The duty to rescue persons in distress at sea, established by UNCLOS Article 98 and by the International Convention on Maritime Search and Rescue (SAR Convention), is applicable to Bangladesh's coast guard and naval vessels, which have an obligation to render assistance to any person found at sea in danger of being lost. This duty applies regardless of the nationality, status, or legal position of the persons in distress, and regardless of any argument by Bangladesh that their entry into Bangladesh's waters is irregular or unauthorised. The duty to rescue must be distinguished from the obligation to allow rescued persons to disembark in Bangladesh, which is governed by a complex intersection of refugee law, immigration law, and maritime law; but the duty of rescue itself is clear, binding, and non-derogable.

The non-refoulement principle, which prohibits states from returning persons to territories where they face persecution or serious harm, applies to Bangladesh's coast guard operations in the territorial sea and EEZ. The Hirsi Jamaa principle, confirmed by the Inter-American Court of Human Rights and now widely accepted as a matter of customary international law, means that Bangladesh cannot legally push back Rohingya boats without first assessing whether the persons on board are at risk of persecution or serious harm. Bangladesh's current practice in this regard has been criticised by UNHCR and human rights organisations, and the legislative framework for coast guard operations does not adequately address the non-refoulement obligation.

CHAPTER 5: ARTIFICIAL INTELLIGENCE, AUTONOMOUS MARITIME SYSTEMS, AND THE FUTURE OF MARITIME GOVERNANCE

5.1 The Technological Revolution and Its Legal Implications

The development of artificial intelligence, machine learning, autonomous vessels, and related digital technologies is transforming maritime commerce, navigation, fisheries, and environmental monitoring at a pace that the legal framework of UNCLOS, developed in the pre-digital era, is not equipped to address. Earlier parts of this commentary, particularly Parts Seventeen and Eighteen, have examined specific aspects of this technological revolution, including vessel monitoring systems, digital port governance, and the emerging legal status of

autonomous vessels. This chapter provides a more comprehensive analysis of the legal and jurisprudential dimensions of the digital transformation of maritime governance, with particular attention to the implications for Bangladesh.

The law of the sea, as codified in UNCLOS, was designed for a world in which ships were operated by human crews, fisheries were monitored through manual surveillance and logbooks, and maritime communication was conducted through radio and telex. The Convention's provisions on manning, navigation, safety, and law enforcement all presuppose the presence of human operators whose conduct can be regulated, whose intent can be assessed, and whose liability can be established. The emergence of autonomous and semi-autonomous vessels, operated remotely or programmed to operate without continuous human supervision, challenges each of these presuppositions and creates legal uncertainties that the UNCLOS framework is not currently equipped to address.

The question of the legal status of autonomous vessels under UNCLOS is fundamental. UNCLOS Article 94 requires the flag state to exercise jurisdiction and control in administrative, technical, and social matters over ships flying its flag, but the exercise of effective jurisdiction over a vessel that navigates autonomously, making real-time navigational decisions through algorithmic processes rather than human judgment, raises profound questions about the meaning of jurisdiction and control. The SOLAS Convention and the COLREGS (International Regulations for Preventing Collisions at Sea) contain detailed provisions on watchkeeping, manning, and the duties of officers on the bridge, provisions that presuppose human presence and judgment. The IMO has been working since 2018 on a regulatory framework for Maritime Autonomous Surface Ships (MASS), and its MASS Regulatory Scoping Exercise, completed in 2021, identified over fifty IMO instruments that would require amendment to accommodate autonomous vessels. As of 2026, this regulatory work is ongoing, and the comprehensive regulatory framework for MASS remains incomplete.

5.2 Artificial Intelligence in Fisheries Governance: Possibilities and Legal Challenges

The application of artificial intelligence to fisheries governance offers transformative possibilities that are directly relevant to Bangladesh's challenges in managing its EEZ fish stocks, detecting IUU fishing, and enforcing its fisheries regulations. AI-powered vessel monitoring systems, satellite-based fishing activity detection, and machine learning algorithms for stock assessment are already being deployed in several jurisdictions and offer the prospect of a level of fisheries monitoring and enforcement capacity that was previously impossible for a country like Bangladesh with limited human and financial resources.

AI-powered vessel monitoring systems can analyse AIS data, satellite imagery, and electronic monitoring data to identify patterns of vessel behaviour associated with IUU fishing, such as fishing in prohibited areas, fishing during closed seasons, or discarding bycatch. These systems can detect anomalies in vessel tracks, identify vessels that have switched off their AIS transponders in suspicious circumstances, and generate automatic alerts for coast guard response. The application of these technologies in Bangladesh's EEZ, which covers 118,813 square kilometres, would dramatically increase the effective monitoring coverage of a coast guard that currently lacks the vessels and personnel to patrol the entire zone.

However, the deployment of AI fisheries enforcement systems raises legal questions that Bangladesh's maritime law framework must address. The use of AI-generated evidence in fisheries prosecution, the right of accused fishing operators to challenge algorithmic assessments of their conduct, the privacy implications of comprehensive vessel monitoring, and the potential for algorithmic bias in enforcement decisions are all questions that require clear legislative answers. The principle of procedural fairness and the right to a fair hearing, protected by Bangladesh's Constitution and by international human rights law, must be preserved even when enforcement is AI-assisted. Bangladesh should develop a clear legal framework for the admissibility and weight of AI-generated evidence in maritime enforcement proceedings, drawing on the experience of jurisdictions that have already confronted these questions.

5.3 Blockchain, Digital Documentation, and Fisheries Traceability

The application of blockchain technology to fisheries supply chain documentation offers a promising approach to addressing the serious problem of falsely documented fish products entering international trade. IUU-caught fish frequently enters the international market through fraudulent catch documentation, undermining conservation measures and rewarding illegal fishing operators. A blockchain-based catch documentation scheme, in which each catch is recorded at the point of landing with a cryptographically secured and tamper-proof record of its origin, species, and catch location, would make it far more difficult for IUU fish to be disguised as legally caught fish.

Bangladesh's marine fisheries industry exports a substantial volume of fish and fish products, and the integrity of catch documentation is important for market access, particularly in the European Union, where the IUU Regulation requires that all fish products imported into the EU be accompanied by a valid catch certificate. A blockchain-based catch documentation system, integrated with Bangladesh's vessel monitoring system and port landing records, would strengthen Bangladesh's compliance with the EU IUU Regulation and enhance the market value of Bangladeshi fish exports.

The development of such a system requires legislative support, including provisions for the legal validity of blockchain records in domestic proceedings and export documentation, the establishment of technical standards for data recording and cryptographic verification, and the governance of the blockchain platform including the authority responsible for its administration. The Marine Fisheries Act 2020, discussed in Part Three of this commentary, does not address blockchain-based documentation, and a legislative update addressing digital documentation infrastructure is an important element of the comprehensive reform agenda.

5.4 Satellite Technology, Marine Domain Awareness, and the Legal Framework

Marine domain awareness, the comprehensive understanding of all activities occurring in a state's maritime zones, is increasingly achievable through the combination of satellite AIS tracking, synthetic aperture radar, optical satellite imagery, and digital analytics platforms. Countries like Norway, through its Barents Watch system, and Chile, through its SSAB system, have deployed integrated marine domain awareness platforms that provide near-real-time situational awareness across their entire maritime zones. Bangladesh, with a maritime zone of

118,813 square kilometres and a coastline subject to regular cyclones, flooding, and climate-driven change, would benefit enormously from a similar investment in marine domain awareness infrastructure.

The legal framework for marine domain awareness must address questions of data sovereignty, the governance of satellite-derived information about activities in Bangladesh's maritime zones, the conditions under which foreign-provided maritime surveillance data can be used as evidence in enforcement proceedings, and the privacy implications of comprehensive maritime monitoring. The recent development of commercial satellite constellations that offer high-resolution maritime surveillance imagery raises particular questions about the role of private actors in maritime domain awareness and the governance implications of commercial entities possessing detailed information about activities in states' maritime zones.

Bangladesh's Coastguard Act and related legislation need to be updated to provide a clear legal basis for the use of remote sensing and satellite monitoring data in maritime enforcement, to establish the admissibility of such data in legal proceedings, and to govern the sharing of maritime domain awareness information with regional partners under the BIMSTEC framework. These technical legislative updates are an essential element of the modernisation of Bangladesh's maritime governance architecture.

CHAPTER 6: THE DEEP SEABED MINING CRISIS AND THE FUTURE OF THE INTERNATIONAL SEABED AUTHORITY

6.1 The ISA at a Crossroads: The 2024-2026 Crisis in Deep Seabed Governance

The International Seabed Authority, established by UNCLOS as the institution responsible for organising and controlling all mineral-related activities in the Area beyond national jurisdiction, is facing an unprecedented governance crisis in 2024-2026. The crisis has been precipitated by the 2021 decision of Nauru to invoke the two-year rule under the ISA Regulations, requiring the ISA Council to complete or provisionally adopt regulations for the exploitation of polymetallic nodules within two years of June 2021. This deadline expired in June 2023, and the Council failed to adopt the exploitation regulations, leaving a regulatory gap that certain states and their sponsored contractors have argued could be used to justify proceeding with mining activities in the absence of agreed regulations.

The Trump administration's Executive Order on deep seabed mining, signed in 2025, directed the US government to facilitate deep seabed mining operations by US companies, raising the spectre of unilateral seabed mining by a non-UNCLOS party outside the ISA framework. This development, which would directly contradict the common heritage of mankind principle embodied in UNCLOS Part XI, has alarmed the international community and has accelerated the debate about the reform of the ISA and the deep seabed governance framework. As noted in a search result examined in Part Two of this commentary, the Trump administration's executive order represents a direct challenge to the international legal framework for deep seabed governance.

For Bangladesh, the crisis in ISA governance is significant for several reasons. Bangladesh's continental shelf in the Bay of Bengal may contain mineral resources of potential value, including ferromanganese nodules and other mineral deposits in deeper waters. Bangladesh is a member of the ISA and participates in its governance, though its capacity to influence ISA decision-making is limited by its status as a developing state with limited technical expertise in deep seabed matters. The integrity of the common heritage of mankind principle, which was established as one of the philosophical pillars of the UNCLOS framework and which is directly relevant to Bangladesh's interests as a developing state, is threatened by both the ISA's governance failure and the US executive order.

6.2 The Common Heritage of Mankind Principle: Philosophy, Content, and Challenge

The common heritage of mankind principle, articulated by Arvid Pardo in 1967 and incorporated in Part XI of UNCLOS and in the 1994 Implementation Agreement, is one of the most philosophically ambitious provisions of international law. It asserts that the resources of the deep seabed beyond national jurisdiction belong not to individual states or to private actors but to humanity as a whole, including future generations, and that their exploitation must be conducted under international supervision and for the benefit of all states, particularly developing states. The principle challenges the fundamental premises of both the freedom-of-the-seas doctrine, which would make the deep seabed open to exploitation by any state capable of reaching it, and the doctrine of national sovereignty, which would restrict the benefits of deep seabed resources to the states under whose maritime zones they might be located.

From a philosophical perspective, the common heritage principle can be read through multiple theoretical frameworks. Rawlsian theory supports it as an application of the difference principle to the international context: the resources of the deep seabed should be distributed in a manner that maximises the position of the least advantaged, which in the global context means developing states. Cosmopolitan theory, as developed by Charles Beitz and Thomas Pogge, supports it as a recognition that the natural resources of the earth are part of a common patrimony that cannot be justly appropriated by any particular community, whether state or otherwise. The intergenerational justice framework of scholars like Edith Brown Weiss supports it as a recognition that future generations have rights in the natural resources of the planet that constrain the freedom of present generations to exploit those resources for their exclusive benefit.

The challenge to the common heritage principle in the current moment comes from multiple directions. The technological and commercial interests of deep seabed mining companies and their sponsoring states push for a regulatory framework that minimises the burden on commercial operators and maximises the flexibility for exploitation. Environmental groups and their allied states argue that the environmental risks of deep seabed mining are so severe, including the destruction of unique and largely unstudied deep-sea ecosystems, that the ISA should adopt a precautionary moratorium or at minimum a very stringent environmental framework. Developing states, including Bangladesh, argue that the benefit-sharing provisions of Part XI must be effectively implemented and that the Authority's Enterprise, the commercial arm of the ISA, must be given real capacity to conduct its own mining operations, as originally envisioned in the UNCLOS framework. And the reform debate is further complicated by the

divergence between states that are parties to the 1994 Implementation Agreement, which significantly modified the Part XI framework in ways that made it more commercially oriented, and states that remain parties only to the original UNCLOS text.

6.3 Bangladesh's Interests and Position in the ISA Reform Debate

Bangladesh's interests in the ISA reform debate are those of a developing state that is unlikely to be a direct participant in deep seabed mining in the near term but that has a significant stake in the equitable governance of the deep seabed as a matter of principle and as a potential source of development finance through the benefit-sharing mechanisms of the common heritage regime. Bangladesh should advocate, in its participation in ISA proceedings, for a robust environmental framework for deep seabed exploitation that requires comprehensive environmental impact assessment, baseline ecosystem surveys, and enforceable environmental standards before any exploitation licence is granted. Bangladesh should also advocate for the effective implementation of the benefit-sharing provisions of the 1994 Implementation Agreement, including the establishment of adequate mechanisms for the distribution of financial benefits from exploitation to developing states.

The ISA's Legal and Technical Commission has been working on the development of exploitation regulations since the early 2010s, and the most recent draft regulations contain provisions on environmental management plans, the application of the precautionary approach, and financial arrangements for the sharing of benefits. Bangladesh should engage actively with these drafting processes, contributing its perspective as a developing state with significant marine environmental interests and limited capacity for deep seabed mining, and ensuring that the regulations reflect the equitable principles at the core of the common heritage regime.

The proposal for a strategic environmental assessment of the deep seabed before any exploitation licences are granted, which has been advanced by a number of environmental organisations and supported by Germany and other states, deserves Bangladesh's support. Such an assessment would provide the scientific basis for informed decision-making about the scale, location, and timing of any deep seabed exploitation, and would give concrete expression to the precautionary approach that UNCLOS and the related instruments require in the deep seabed context.

CHAPTER 7: THE FUTURE OF UNCLOS: REFORM DEBATES, INTERPRETIVE EVOLUTION, AND THE CHALLENGE OF INSTITUTIONAL ADEQUACY

7.1 The Constitution of the Oceans at Forty: Achievements and Limitations

UNCLOS entered into force in 1994, and the world within which it now operates differs profoundly from the world in which it was negotiated. In 1982, when the Convention was adopted, climate change was not yet a primary concern of international law; the concept of the Anthropocene had not been articulated; the internet had not been invented; deep seabed mining was a theoretical future possibility rather than an imminent commercial prospect; and the geopolitical landscape of the Asia-Pacific was fundamentally different from the landscape of

2026. The Convention has proven remarkably adaptable, through the work of its implementing institutions, through the jurisprudence of ITLOS and other tribunals, and through the adoption of supplementary instruments like the 1994 Implementation Agreement and the 2023 BBNJ Agreement. But it faces challenges that increasingly test the limits of its architecture.

The most fundamental challenge is the one examined in depth in Part Fourteen: climate change and the marine environment. UNCLOS was not designed as a climate treaty, and the insertion of the climate framework into the UNCLOS structure through the 2024 ITLOS and 2025 ICJ Advisory Opinions is a creative jurisprudential achievement, but it cannot substitute for the specific operational provisions that an effective marine climate governance regime would require. The Convention does not contain specific provisions on greenhouse gas emissions, on carbon sequestration in the marine environment, on the governance of blue carbon ecosystems, or on the adaptation obligations of coastal states facing climate-driven marine environmental changes. The integration of these gaps into the UNCLOS framework requires either further interpretive development, further supplementary instruments under the Convention, or, in the longer term, a revisiting of the Convention's text.

The second major challenge is the governance of new maritime activities and technologies that UNCLOS did not anticipate. Offshore wind energy, tidal and wave energy, marine aquaculture at scale, seabed data cables and communication infrastructure, autonomous vessel navigation, and submarine drones for military and commercial purposes all create regulatory gaps that the UNCLOS framework addresses inadequately or not at all. The IMO and other specialised agencies are developing specific instruments to address some of these gaps, but the process is slow and the coverage is uneven.

The third challenge is the increasingly assertive challenge to the UNCLOS framework from major powers that find specific provisions inconsistent with their strategic interests. China's rejection of the South China Sea Arbitration Award of 2016, which applied UNCLOS to reach conclusions inconsistent with China's historical claims in the South China Sea, represents the most significant challenge to the authority of the UNCLOS dispute settlement system since the Convention's entry into force. The US refusal to ratify UNCLOS, despite its general acceptance of much of the Convention as reflecting customary international law, creates an ongoing gap in the universal application of the Convention's norms. And the tension between the territorial interpretations of the EEZ favoured by China and other states and the freedom-of-navigation interpretation of the EEZ favoured by the United States and Western states represents a fundamental disagreement about the basic architecture of the Convention that shows no signs of resolution.

7.2 UNCLOS Amendment and Supplementation: The Institutional Mechanisms and Their Limitations

UNCLOS provides for its own amendment through a two-stage process established in Articles 312 to 316. Proposed amendments may be submitted to the Secretary-General after any period of time following the Convention's entry into force, and must be considered at a conference of states parties. For most of the Convention's provisions, amendments require ratification by two-thirds of the states parties to enter into force, and they are binding only on those states that have

ratified them. This high threshold for amendment is a fundamental obstacle to the systematic revision of the Convention's provisions in response to new challenges, since achieving two-thirds ratification of proposed amendments on contentious issues would be extremely difficult.

The preferred mechanism for the development of the UNCLOS framework has therefore been the adoption of implementing agreements, which supplement the Convention's provisions without formally amending them. The 1994 Implementation Agreement on deep seabed mining and the 2023 BBNJ Agreement are the two agreements that have been adopted under this mechanism, and both have been jurisprudentially and practically significant. The mechanism is, however, available only for issues where the Convention itself provides a basis for supplementary regulation, and it cannot be used to address issues that are entirely outside the Convention's scope or that would require fundamentally reconfiguring the balance struck in the original text.

The 2023 BBNJ Agreement, which entered into force on 17 January 2026 following its sixtieth ratification in September 2025, represents the most recent and comprehensive supplementation of the UNCLOS framework. As examined in Part Sixteen of this commentary, the Agreement establishes a framework for the governance of marine genetic resources, area-based management tools, and environmental impact assessments in areas beyond national jurisdiction. For Bangladesh, the entry into force of the BBNJ Agreement creates new obligations and opportunities that must be incorporated into the domestic legal framework. Bangladesh, which signed the BBNJ Agreement but has not yet ratified it as of the writing of this Part, should proceed to ratification as a matter of priority, both to give domestic effect to its obligations and to participate in the first Conference of the Parties, where the Agreement's implementing rules and institutional arrangements will be developed.

7.3 The South China Sea Arbitration and the Crisis of Compliance

The 2016 Award in the South China Sea Arbitration between the Philippines and China, delivered by a tribunal constituted under Annex VII of UNCLOS, is the most significant compliance challenge that the UNCLOS dispute settlement system has faced. The tribunal found in favour of the Philippines on virtually all of the key legal questions, including the invalidity of China's nine-dash line claim as a basis for historic rights over the EEZ and continental shelf of other states, the legal status of certain features in the Spratly Islands, and China's interference with the Philippines' fishing rights and petroleum exploration activities in its EEZ. China rejected the award as null and void and refused to comply with its findings. The award has not been enforced, and China's continued presence on artificial islands and its continued assertion of wide-ranging claims in the South China Sea represent a direct challenge to the authority of the UNCLOS dispute settlement system.

The South China Sea situation is relevant to Bangladesh's maritime legal situation in several respects. First, it demonstrates that the effectiveness of the UNCLOS dispute settlement system depends ultimately on the willingness of states to comply with its decisions, and that the system lacks effective enforcement mechanisms where a major power refuses compliance. The lesson for Bangladesh is that the value of international legal vindication, while real and significant,

depends on the enforcement context and that legal success in arbitration must be combined with diplomatic and political strategies to maximise the prospects for compliance and implementation.

Second, the South China Sea situation has heightened geopolitical tensions in the Indo-Pacific region, and these tensions have a direct impact on the strategic environment within which Bangladesh must exercise its maritime sovereignty in the Bay of Bengal. The competition between India and China for maritime influence in the Bay of Bengal, the US strategic interest in freedom of navigation in the region, and the interests of other regional powers including Japan, Australia, and the Gulf states all create a complex geopolitical context that Bangladesh must navigate carefully. Bangladesh's foreign policy of strategic autonomy, its simultaneous maintenance of relationships with both India and China, and its reliance on the multilateral legal framework to protect its maritime rights against more powerful neighbours are all elements of a coherent but fragile strategic posture.

7.4 The ITLOS Docket in 2026 and Emerging Jurisprudential Developments

The International Tribunal for the Law of the Sea, as reflected in its latest news of 16 March 2026, is currently handling the Zheng He case and other new proceedings, reflecting the continuing expansion of its caseload and the ongoing development of the UNCLOS jurisprudence. The tribunal's growing body of case law on maritime boundary delimitation, provisional measures, marine environmental protection, and prompt release of vessels and crew is constructing a rich and increasingly coherent legal framework for the interpretation and application of UNCLOS.

The emerging jurisprudence on marine environmental obligations, accelerated by the 2024 Advisory Opinion, is particularly significant. Subsequent cases before ITLOS and other tribunals are beginning to elaborate the specific content of states' due diligence obligations in relation to the marine environment, including the obligations of environmental impact assessment, monitoring, and cooperation that the Advisory Opinion confirmed. The development of this environmental jurisprudence has direct implications for Bangladesh's governance of its own maritime zone and for its claims against states whose activities harm the marine environment.

The dialogue between ITLOS and the ICJ, which the Columbia Climate Law Blog analysis of August 2025 identified as a significant feature of the current phase of international climate jurisprudence, is creating a more coherent and mutually reinforcing body of international environmental law that draws on both the Law of the Sea framework and the general international law of state responsibility. For Bangladesh, the practical implication is that its international legal advocacy in both the climate and maritime contexts benefits from a more developed and consistent legal framework than has previously been available, and its domestic reform agenda should be designed to take advantage of this jurisprudential development.

CHAPTER 8: THE GEOPOLITICS OF THE BAY OF BENGAL IN 2026: GREAT POWER COMPETITION AND BANGLADESH'S STRATEGIC LEGAL POSITION

8.1 The Bay of Bengal as a Theatre of Strategic Competition

The Bay of Bengal has become, in the decade of the 2020s, one of the most strategically contested maritime spaces in the world. The rise of China as a global maritime power, expressed through its Belt and Road Initiative, its development of port infrastructure at Chittagong in Bangladesh and Kyaukpyu in Myanmar, and its naval expansion in the Indian Ocean, has transformed the strategic landscape of South Asia's maritime environment. India's response to Chinese maritime expansion has included significant investment in naval capability, in port development and maritime infrastructure in the Andaman and Nicobar Islands, and in bilateral security partnerships with regional states including Bangladesh, Sri Lanka, and the Maldives. The United States, through its Indo-Pacific Strategy and its engagement with BIMSTEC and the Quad framework, has sought to maintain its traditional role as the guarantor of maritime freedom in the region.

For Bangladesh, navigating these competing strategic interests while maintaining its core policy of strategic autonomy, avoiding the choice between China and India, and insisting on the primacy of international law in the governance of its maritime domain, requires sophisticated diplomatic and legal strategy. The Blue Economy Partnership with Japan, the security assistance relationship with India, the economic infrastructure relationship with China, and the multilateral engagement with BIMSTEC and other regional frameworks must all be managed in ways that protect Bangladesh's maritime sovereignty and maximise the benefits of each relationship without creating dependence or vulnerability.

The legal dimension of this strategic challenge is fundamental. Bangladesh's maritime rights, including its EEZ and continental shelf entitlements, are established by international law and protected by the UNCLOS dispute settlement framework. Any erosion of the authority of that framework, whether through the South China Sea precedent of non-compliance with arbitral awards or through the US promotion of alternative governance arrangements that bypass UNCLOS, undermines the legal protection that Bangladesh relies on to assert its maritime rights against more powerful neighbours. Bangladesh has a profound strategic interest in the integrity of the UNCLOS system and should be a consistent and vocal advocate for its universal application and compliance.

8.2 China's Maritime Infrastructure in the Bay of Bengal and Legal Implications

China's development of port infrastructure in Bangladesh, primarily through its involvement in the development of the Payra deep-sea port and the upgrading of the Chittagong port, and its involvement in port development in Myanmar at Kyaukpyu, which is connected to Yunnan Province by a pipeline and road corridor, has generated significant discussion about the strategic and legal implications of Chinese maritime presence in the Bay of Bengal. From a legal perspective, the relevant questions include the implications of Chinese-financed port infrastructure for Bangladesh's sovereign control over its maritime facilities, the legal framework governing access to Bangladesh's ports by Chinese naval vessels, and the relationship between commercial port development agreements and Bangladesh's maritime security obligations under international law.

The Port State Control framework, discussed in Parts Fifteen and Seventeen of this commentary, provides Bangladesh with the legal authority to control access to its ports and to impose conditions on vessels entering and using those ports. This authority includes the right to deny port access to vessels that do not meet safety, environmental, and documentation standards. It does not, however, provide a legal basis for Bangladesh to grant exclusive or preferential access to the ports to vessels of any particular state, nor does it limit Bangladesh's commercial freedom to develop port infrastructure through foreign investment.

Bangladesh's bilateral agreements with China on port infrastructure development, including the investment agreements, loan agreements, and technical cooperation agreements related to the Payra and Chittagong port projects, need to be reviewed to ensure that they do not contain provisions that would constrain Bangladesh's legal authority over its own maritime infrastructure. Debt trap diplomacy, the practice of structuring infrastructure loans in ways that could result in the transfer of control over strategic assets in the event of debt default, is a concern that has been raised in connection with Chinese Belt and Road Initiative investments in Sri Lanka, Pakistan, and other regional states. Bangladesh's legal negotiating capacity and institutional oversight of infrastructure agreements must be adequate to protect against provisions that would compromise the country's maritime sovereignty.

8.3 India-Bangladesh Maritime Relations: The Grey Area, the Teesta, and the Blue Economy

Bangladesh's maritime relationship with India is the most practically important bilateral maritime relationship in Bangladesh's legal situation, and it is also one of the most complex. The successful resolution of the maritime boundary dispute through the 2014 PCA Award has removed the most acute source of legal tension, but several important issues remain. The grey area created by the Award, the Rohingya crisis and its implications for maritime security in the Bay of Bengal, the bilateral fisheries tension in the Palk Bay analogue of the Bay of Bengal's shared fishing grounds, and the broader question of the framework for bilateral maritime cooperation all require sustained legal and diplomatic attention.

The Teesta river water-sharing dispute, which has long been the most politically sensitive bilateral issue between Bangladesh and India, has maritime implications in so far as the Teesta's flow affects the ecology of the Brahmaputra-Meghna estuarine system and the productivity of the coastal fisheries on which millions of Bangladeshis depend. The legal framework for the equitable sharing of transboundary rivers in South Asia, examined from the perspective of international watercourse law in other parts of this commentary, intersects with the law of the sea in the specific context of the fresh water inputs to the Bay of Bengal that shape the coastal marine environment.

The BIMSTEC Maritime Transport Agreement of 2025, in which India was the first to ratify, provides a new framework for bilateral maritime transport cooperation that could significantly enhance the efficiency of trade between Bangladesh and India and improve Bangladesh's connectivity with landlocked neighbours Nepal and Bhutan. The legal implementation of the AMTC in Bangladesh's domestic law, and the development of the institutional arrangements necessary for its effective operation, is an important element of the maritime law reform agenda.

8.4 Bangladesh's Strategic Use of International Legal Institutions: Building on the Arbitration Legacy

Bangladesh's successful use of international arbitration to secure its maritime boundaries against India and Myanmar is the most celebrated achievement of Bangladesh's international legal diplomacy. It demonstrated that international legal institutions can provide genuine protection for the rights of a smaller, less powerful state against more powerful neighbours, and it established Bangladesh's reputation as a state that takes international law seriously and is capable of effective engagement with international legal processes.

Building on this legacy, Bangladesh should develop a more systematic approach to the use of international legal institutions for the protection and advancement of its maritime interests. This includes active participation in the ISA to protect the common heritage principle, engagement with ITLOS and other tribunals in advisory proceedings and contentious cases where Bangladesh's interests are at stake, participation in the BBNJ Conference of the Parties to shape the implementation of the High Seas Treaty, and systematic engagement with the ILC, the ILA, and other bodies that are developing the international law relevant to Bangladesh's maritime situation.

Bangladesh's academic and professional capacity in international maritime law is a critical resource for this engagement. The establishment of the Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) in Chattogram, discussed in earlier parts of this commentary, is an important institutional investment. The development of a strong international maritime law faculty at BSMRMU, with active research programmes on the law of the sea, international environmental law, maritime boundary jurisprudence, and the governance of blue economy resources, would build the intellectual infrastructure for Bangladesh's continued effective engagement with international maritime legal processes.

CHAPTER 9: CONSTITUTIONAL DIMENSIONS OF MARITIME SOVEREIGNTY IN BANGLADESH

9.1 The Constitution of Bangladesh and the Maritime Domain

The Constitution of Bangladesh, adopted in 1972 and amended on numerous occasions, does not contain specific provisions addressing the maritime domain in the comprehensive manner that the gravity of Bangladesh's maritime interests would suggest. Article 1 proclaims Bangladesh a unitary, independent, sovereign democratic republic. Articles 143 and 144 provide that all property and assets vested in the state belong to the republic, subject to any law made by parliament, and that all minerals, oil, gas, and other mineral resources in the sea shall be vested in the state. These provisions establish the basic constitutional basis for state ownership of maritime resources, but they do not address the framework of maritime zones, the distribution of governance responsibilities, the protection of coastal communities' rights, or the relationship between national and international maritime law.

The constitutional framework for environmental protection, established in Article 18A (inserted by the Fifteenth Amendment in 2011), provides that the state shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests, and wildlife for the present and future citizens. This provision is directly applicable to the marine environment and to Bangladesh's maritime biodiversity, but it is framed as a directive principle of state policy rather than as a justiciable fundamental right, limiting its enforceability through judicial review.

The case for a comprehensive constitutional provision on the maritime domain, explicitly protecting Bangladesh's maritime sovereignty, establishing the framework of maritime zones as a constitutional matter, and recognising the rights of coastal communities and future generations in the marine environment, is strong. Several states have incorporated maritime-specific provisions in their constitutions, including Ecuador, which recognises the rights of nature including the ocean in its 2008 constitution, and various Pacific island states whose constitutions address maritime sovereignty and the rights of fishing communities. Bangladesh should consider a constitutional amendment that addresses the maritime domain comprehensively, establishing the legal foundations for the comprehensive maritime governance architecture that this commentary has advocated throughout its twenty parts.

9.2 Fundamental Rights and the Marine Environment: Judicial Interpretation and the Path Forward

The Supreme Court of Bangladesh, and particularly its High Court Division, has on several occasions interpreted the fundamental rights provisions of the Constitution in ways that extend protection to environmental interests. The doctrine of the right to a healthy environment, derived from the right to life protected by Article 31 and Article 32 of the Constitution, has been developed in a series of public interest litigation cases, including cases concerning air and water pollution, hazardous waste, and the protection of natural water bodies.

The extension of this constitutional environmental rights jurisprudence to the marine environment is both legally possible and practically important. The right to life, as interpreted by the High Court Division in the human rights tradition of the Indian subcontinent and more broadly in the tradition of the ICCPR, encompasses the right to the conditions necessary for a dignified human existence, including access to clean water, a healthy environment, and the natural resources on which subsistence depends. For the millions of coastal Bangladeshis whose livelihoods depend on healthy marine ecosystems, the degradation of the marine environment through pollution, overfishing, and climate change is a direct threat to their right to life in this comprehensive sense.

A constitutional challenge to the adequacy of Bangladesh's marine environmental governance, brought by coastal fishing communities whose livelihoods are threatened by the failures of environmental enforcement in the Bay of Bengal, would be legally viable and could provide the judicial impetus for the legislative and administrative reforms that this commentary recommends. The standing doctrine in Bangladesh, which has been liberalised by the courts to allow public interest litigation by non-governmental organisations and concerned citizens, provides the procedural mechanism for such a challenge. The development of maritime constitutional

litigation as a mechanism for law reform, building on the model of environmental public interest litigation that has been so productive in India, is a tool that Bangladesh's civil society and legal community should actively develop.

9.3 Parliamentary Oversight and the Legislative Framework for Maritime Governance

The legislative framework for maritime governance in Bangladesh is distributed across numerous pieces of legislation, as documented throughout this commentary, and is overseen by a fragmented system of parliamentary committees without a single committee dedicated to maritime affairs. The Parliamentary Standing Committee on the Ministry of Shipping, the Standing Committee on the Ministry of Fisheries and Livestock, the Standing Committee on the Ministry of Foreign Affairs, and the Standing Committee on the Ministry of Environment, Forest and Climate Change all have some oversight responsibility for maritime governance, but there is no systematic parliamentary scrutiny of Bangladesh's performance of its international maritime law obligations or of the overall coherence of the maritime governance framework.

The establishment of a dedicated Parliamentary Standing Committee on Maritime Affairs, with responsibility for overseeing the full range of Bangladesh's maritime governance, coordinating the activities of the relevant sector-specific committees, and conducting regular reviews of Bangladesh's compliance with international maritime law obligations, would be a significant institutional reform. Such a committee could provide the legislative oversight necessary to drive the comprehensive reform agenda recommended in this commentary, to ensure the timely implementation of international conventions, and to hold the executive accountable for the performance of Bangladesh's maritime governance institutions.

A dedicated committee would also provide a forum for public engagement with maritime governance issues. Civil society organisations, fishing community representatives, environmental groups, and maritime industry associations could provide testimony to the committee, ensuring that the perspectives of those most affected by maritime governance decisions are systematically incorporated into the legislative process. The model of the Parliamentary Committees on Environment and Natural Resources in some African and Pacific states, which actively engage with civil society and host public hearings on major environmental and resource governance questions, provides an inspiration for the design of Bangladesh's maritime governance committee.

CHAPTER 10: THE BBNJ AGREEMENT IN FORCE: IMPLICATIONS AND IMPLEMENTATION OBLIGATIONS FOR BANGLADESH

10.1 The Entry into Force of the BBNJ Agreement: A Landmark in Ocean Governance

The entry into force of the BBNJ Agreement on 17 January 2026, following the deposit of the sixtieth instrument of ratification by Morocco and Sierra Leone in September 2025, marks a landmark in the governance of the global ocean. As confirmed by the SDG Knowledge Hub, the BBNJ Agreement entered into force on 17 January 2026, 120 days after the date of deposit of the

60th ratification, with 83 parties and 145 signatories as of that date, and negotiations are underway to prepare for the convening of the first meeting of the Conference of the Parties. The COP 1 meeting will determine the institutional arrangements, subsidiary bodies, and implementing rules that will govern the Agreement's operation in practice, and it represents an opportunity for Bangladesh to shape the governance framework of the High Seas Treaty.

The BBNJ Agreement addresses four central elements: the sharing of benefits from marine genetic resources and digital sequence information, area-based management tools including marine protected areas in the high seas, environmental impact assessment requirements for activities in areas beyond national jurisdiction, and capacity building and marine technology transfer. Each of these elements has direct relevance to Bangladesh's interests and creates specific obligations that Bangladesh must incorporate into its domestic legal framework.

The marine genetic resources provisions require states to share benefits from the use of genetic resources from areas beyond national jurisdiction, through a combination of monetary and non-monetary benefits including the sharing of research results, technology transfer, and financial contributions to a special fund for developing countries. Bangladesh, as a biodiversity-rich developing state with growing capacity in marine biotechnology, has an interest both in ensuring that the benefit-sharing mechanism is effectively designed and in developing its own capacity to participate in the research and commercialisation activities that generate the benefits to be shared.

The area-based management tools provisions create a framework for the designation of marine protected areas and other management measures in the high seas, requiring states to cooperate in their establishment and to ensure the consistency of activities in areas adjacent to their EEZs with the management measures applicable in the high seas. For Bangladesh, whose EEZ borders areas that may be designated as high seas marine protected areas or subject to other management measures under the BBNJ Agreement, the requirement of consistency creates obligations to ensure that activities in Bangladesh's EEZ do not undermine the management objectives of adjacent high seas areas.

10.2 Environmental Impact Assessment in Areas Beyond National Jurisdiction: Implications for Bangladesh

The EIA provisions of the BBNJ Agreement are among its most practically significant elements for Bangladesh. Article 38 of the Agreement requires states parties to assess the potential effects on the marine environment of planned activities under their jurisdiction or control that may cause substantial pollution of or significant and harmful changes to the marine environment in areas beyond national jurisdiction. This provision creates a positive obligation for Bangladesh to conduct environmental impact assessments before authorising activities that could have transboundary effects on the marine environment, including offshore energy development, large-scale aquaculture, and other activities in its EEZ that could affect the marine environment of the adjacent high seas.

The standard of environmental impact assessment required by the BBNJ Agreement builds on the framework established by UNCLOS Article 206 and by the 2024 ITLOS Advisory Opinion,

which confirmed that the obligation of EIA under UNCLOS extends to activities that may cause significant harm to the marine environment, including activities that contribute to climate change through greenhouse gas emissions. The integrated application of these EIA obligations, combining the requirements of UNCLOS, the BBNJ Agreement, and the Advisory Opinion's elaboration of due diligence, creates a comprehensive framework of preventive environmental governance that Bangladesh's domestic law must reflect.

Bangladesh's current legal framework for environmental impact assessment, governed by the Environment Conservation Act of 1995 and the Environment Conservation Rules, provides a domestic EIA framework but does not specifically address the maritime context or the BBNJ Agreement's requirements for activities affecting areas beyond national jurisdiction. An amendment to the EIA framework, or the adoption of a specific Marine EIA Regulation, that incorporates the requirements of UNCLOS Article 206 and the BBNJ Agreement into domestic law is an essential element of the legislative reform agenda.

10.3 Capacity Building and Technology Transfer: Bangladesh's Entitlements and Obligations

The capacity building and technology transfer provisions of the BBNJ Agreement, contained in Part V, create both entitlements and obligations for Bangladesh. As a developing state, Bangladesh is entitled to benefit from the capacity building and technology transfer measures established under the Agreement, which include training in marine scientific research, technology for the monitoring and assessment of marine biodiversity, and financial and technical support for the implementation of the Agreement's provisions. Bangladesh should actively engage with the BBNJ capacity building mechanisms, identifying specific capacity gaps in marine scientific research, deep seabed monitoring, and high seas governance that the Agreement's mechanisms can help to address.

At the same time, Bangladesh has obligations under Part V to cooperate in capacity building activities as a more capable partner to states with even lower capacity, and to contribute to the voluntary fund for developing states where its financial capacity permits. The principle of common but differentiated responsibilities, which is explicitly recognised in the BBNJ Agreement's framework, acknowledges that developing states have different capacities and obligations than developed states, but it does not exempt developing states from all obligations of cooperation and contribution. Bangladesh should frame its engagement with the BBNJ capacity building framework as a relationship of mutual obligation and mutual benefit, rather than simply as a mechanism for receiving assistance.

CHAPTER 11: THE INTEGRATED MARITIME GOVERNANCE ACT: PRINCIPLES, ARCHITECTURE, AND CONTENT

11.1 The Case for Comprehensive Legislative Reform

Throughout this commentary, across eighteen parts and hundreds of chapters, the conclusion has been consistently and repeatedly reached that Bangladesh's maritime legal framework is inadequate to its maritime interests, inconsistent in its coverage, and insufficiently integrated across the many dimensions of maritime governance. The evidence for this conclusion is overwhelming: the gaps in the marine environmental governance framework identified in Part Fourteen, the inadequacies of the fisheries law identified in Part Three, the deficiencies in the shipping and admiralty framework identified in Parts Fifteen and Eighteen, the absence of a marine spatial planning framework identified in Part Seventeen, and the numerous lacunae in the Territorial Waters and Maritime Zones Act and its 2021 Amendment identified throughout this commentary.

The appropriate response to this systematic legislative inadequacy is not another incremental amendment to existing legislation, though such amendments may be needed in specific contexts. The appropriate response is the adoption of a comprehensive Integrated Maritime Governance Act, a single statute that establishes the overall framework for Bangladesh's maritime governance, articulates the principles and objectives that govern all maritime activities, coordinates the various sector-specific legal regimes, and creates the institutional architecture for effective maritime governance. Such an Act would be the legislative embodiment of the comprehensive maritime governance vision that this commentary has advocated, the maritime equivalent of a blue constitution for Bangladesh's ocean domain.

The argument for comprehensive integration rather than incremental amendment rests on several grounds. First, the current fragmentation of maritime law across dozens of statutes administered by different ministries creates genuine substantive gaps and inconsistencies that cannot be resolved without a framework statute that establishes clear hierarchical relationships among the different regulatory regimes. Second, the comprehensive nature of Bangladesh's maritime governance needs, encompassing environmental protection, resource management, shipping regulation, coastal zone management, maritime security, and international relations, requires a framework statute that addresses all of these needs in a coherent and integrated manner. Third, the adoption of a comprehensive framework statute would provide an opportunity to undertake the intellectual work of articulating the principles and values that should guide Bangladesh's maritime governance, grounding the legislation in the legal, philosophical, and political analysis that this commentary has developed.

11.2 Principles of the Integrated Maritime Governance Act

The Integrated Maritime Governance Act should be founded on a set of explicit governing principles that reflect the best contemporary thinking in international maritime law, international environmental law, and the philosophy of ocean governance. The following principles should be incorporated in the Act's foundational provisions.

The principle of maritime sovereignty establishes that Bangladesh exercises sovereign rights and jurisdiction over its maritime zones in accordance with UNCLOS and other applicable provisions of international law, and that these sovereign rights and jurisdiction are permanently established and shall not be diminished by reason of any physical change in the coast or seabed resulting from climate change, sea-level rise, or other external causes. This provision gives direct

legislative effect to the ICJ Advisory Opinion's affirmation of baseline stability and creates a domestic legal anchor for Bangladesh's maritime sovereignty claims.

The principle of sustainable use requires that all activities in Bangladesh's maritime zones be conducted in a manner that does not undermine the long-term health and productivity of marine ecosystems, and that the exploitation of marine resources be subject to the principles of ecosystem-based management, the precautionary approach, and intergenerational equity. This provision incorporates the most advanced principles of international fisheries and environmental law into the domestic legal framework and makes them applicable across all maritime activities rather than only in the fisheries and environmental law sectors.

The principle of rights-based governance requires that the governance of Bangladesh's maritime resources respect and give effect to the rights of coastal fishing communities, including their rights to a livelihood, to participation in governance decisions, to the preservation of their cultural relationship with the sea, and to equitable sharing in the benefits of maritime resource development. This provision incorporates the human rights framework examined in Chapter 4 of this Part into the legislative architecture of maritime governance and establishes the legal basis for a rights-based approach to blue economy development.

The principle of international compliance requires that Bangladesh's domestic maritime governance be consistent with its obligations under UNCLOS, the BBNJ Agreement, the MARPOL Convention, the MLC, the relevant ILO conventions, and other applicable international instruments, and that domestic law be interpreted and applied in a manner consistent with Bangladesh's international obligations. This provision establishes the principle of treaty-conforming interpretation in the maritime context and creates a domestic legal obligation for all maritime governance bodies to apply international maritime law standards in their activities.

The principle of institutional coherence requires that all agencies responsible for maritime governance coordinate their activities and policies to ensure the consistent and integrated governance of Bangladesh's maritime domain, and that conflicts of jurisdiction be resolved in accordance with the hierarchy of governance responsibilities established in the Act. This provision addresses the institutional fragmentation problem and creates a legal basis for the establishment of coordination mechanisms, including a National Maritime Governance Council, that can integrate the activities of the various agencies and ministries responsible for maritime governance.

The principle of transparency and accountability requires that all maritime governance decisions be made through transparent processes, that all maritime regulatory authorities publish their policies, procedures, and decisions, and that adequate mechanisms for public participation, judicial review, and parliamentary oversight be established in relation to maritime governance. This provision addresses the accountability gap in Bangladesh's current maritime governance framework and creates the institutional conditions for the rule of law in the maritime domain.

11.3 The Institutional Architecture: Towards a National Maritime Authority

The institutional architecture of the Integrated Maritime Governance Act should provide for the establishment of a National Maritime Authority (NMA) as the apex regulatory and coordination body for Bangladesh's maritime governance. The NMA should be established as an independent statutory authority, with a board of directors drawn from the relevant government ministries, independent technical experts, and representatives of maritime industry, fishing communities, and civil society. It should have a clear mandate to develop and implement an integrated national maritime policy, to coordinate the activities of the sector-specific maritime regulatory agencies, to advise the government on maritime law reform and international maritime relations, and to represent Bangladesh in international maritime governance forums.

The NMA's institutional design should draw on the experience of comparable bodies in other jurisdictions, including the UK Marine Management Organisation, the Norwegian Coastal Administration, and the Australian Maritime Safety Authority. These bodies share a number of common features that should inform the design of Bangladesh's NMA: a clear statutory mandate, operational independence from political direction on day-to-day regulatory matters, adequate human and financial resources, transparent governance structures, and robust accountability mechanisms. The detailed institutional design of the NMA, including its structure, staffing, financing, accountability arrangements, and relationship with existing maritime agencies, would require careful work over a preparatory period before its establishment.

The relationship between the NMA and the existing maritime regulatory bodies, including the Bangladesh Coast Guard, the Department of Shipping, the Bangladesh Fisheries Development Corporation, Petrobangla, the Department of Environment, and the Bangladesh Meteorological Department, requires clear legislative delineation. The NMA should have strategic and coordinative authority over all maritime governance activities, but operational management of specific maritime functions should remain with the specialist agencies that have developed the expertise and capacity for those functions. The model should be one of integrated strategic governance combined with operational specialisation, with clear lines of accountability and communication between the NMA and its partner agencies.

11.4 Marine Spatial Planning as the Operational Framework

The comprehensive reform of Bangladesh's maritime governance requires, as its operational centre, a marine spatial planning framework that provides the geographic and temporal organisation for all maritime activities in Bangladesh's zones. Marine spatial planning, examined in depth in Part Seventeen, provides the mechanism for integrating the governance of fisheries, energy, transport, environmental protection, tourism, and other maritime activities in a coherent and evidence-based manner, resolving conflicts between uses, identifying opportunities for synergies, and ensuring that the cumulative impacts of multiple activities on the marine ecosystem remain within sustainable limits.

The Integrated Maritime Governance Act should establish a marine spatial planning framework as a statutory obligation, requiring the NMA to prepare, maintain, and regularly update a National Marine Spatial Plan that covers Bangladesh's entire maritime domain including its territorial sea, EEZ, and continental shelf. The Plan should be developed through a process of extensive consultation with all relevant stakeholders, including fishing communities, offshore

energy operators, shipping interests, environmental groups, the tourism industry, and the general public. It should be based on the best available scientific information about the marine environment and its resources, and it should be subject to strategic environmental assessment to ensure that it meets the environmental standards required by UNCLOS and the BBNJ Agreement.

The legal effect of the National Marine Spatial Plan should be that all government decisions about maritime activities, including the granting of fishing licences, offshore energy exploration permits, port construction authorisations, and marine protected area designations, must be consistent with the Plan. This would give the Plan genuine regulatory effect, integrating the currently fragmented decision-making processes of multiple agencies and ministries and replacing them with a coherent governance framework grounded in spatial planning principles.

11.5 The Legislative Architecture: Specific Components of the Reform Programme

Beyond the framework provisions of the Integrated Maritime Governance Act, the comprehensive reform programme requires a number of specific legislative instruments addressing particular aspects of maritime governance. The following legislative components should be developed as part of the comprehensive reform package.

The Marine Fisheries and Aquaculture Act should replace the existing Marine Fisheries Ordinance of 1983 and the Marine Fisheries Act 2020, integrating fisheries and aquaculture governance in a single comprehensive statute that reflects the current state of international fisheries law, incorporates the provisions of the UNFSA, the FAO Code of Conduct, and the ITLOS Advisory Opinion of 2015 on flag state responsibilities, establishes an ecosystem-based management framework, provides for comprehensive stock assessment and fisheries management planning, creates a rights-based access system for commercial fisheries, and protects the rights and livelihoods of small-scale fishing communities. The Act should specifically address the governance of hilsa and other nationally significant species, the management of transboundary stocks, the regulation of aquaculture operations including offshore aquaculture in the EEZ, and the implementation of Bangladesh's obligations under the WTO Agreement on Fisheries Subsidies.

The Offshore Resources Governance Act should consolidate the legal framework for the exploration and exploitation of offshore hydrocarbons, minerals, and marine genetic resources, replacing the existing patchwork of Petrobangla legislation, production sharing contracts, and maritime zones provisions with a comprehensive statute that establishes a clear licensing framework, safety and environmental standards for offshore operations, revenue management provisions consistent with the principles of transparent and accountable natural resource governance, and specific provisions addressing the grey area created by the 2014 PCA Award. The Act should also provide a framework for the governance of offshore renewable energy, including wind, tidal, and wave energy, which is an increasingly important element of Bangladesh's energy transition strategy.

The Marine Environment Protection Act should replace the existing environmental provisions of the Territorial Waters and Maritime Zones Act, the Environment Conservation Act, and other

relevant legislation with a comprehensive statute specifically addressed to the protection of the marine environment of Bangladesh's maritime zones and adjacent high seas areas. The Act should incorporate the full framework of UNCLOS Part XII obligations, give domestic effect to the MARPOL Convention and its annexes, implement the London Protocol on dumping, address land-based sources of marine pollution through integrated coastal zone management, establish a framework for marine protected areas and other area-based conservation tools, and provide specific provisions on the response to climate change as a source of marine pollution in accordance with the obligations confirmed by the 2024 ITLOS and 2025 ICJ Advisory Opinions. The Act should also implement the EIA provisions of the BBNJ Agreement and establish the domestic framework for benefit sharing from marine genetic resources.

The Maritime Security Act should consolidate the legal framework for maritime law enforcement, counter-piracy, counter-terrorism, maritime crime prevention, and maritime search and rescue, replacing the existing provisions scattered across the Coast Guard Act, the Penal Code, the anti-terrorism legislation, and various other instruments with a comprehensive statute that provides clear enforcement powers, procedural safeguards consistent with UNCLOS and international human rights law, and institutional arrangements for the coordination of maritime security activities among the coast guard, navy, customs, and other relevant agencies. The Act should specifically address the treatment of persons rescued at sea, including asylum seekers and irregular migrants, in a manner consistent with Bangladesh's obligations under the 1951 Refugee Convention, the SAR Convention, and international human rights law.

CHAPTER 12: CONTROVERSIES, CRITIQUES, AND THE POLITICS OF MARITIME LAW REFORM IN BANGLADESH

12.1 The Political Economy of Reform: Interests, Incentives, and Obstacles

The comprehensive maritime law reform agenda recommended in this commentary is intellectually compelling, legally grounded, and strategically essential. But it faces significant political and institutional obstacles that must be honestly acknowledged and carefully navigated if the reform programme is to succeed. The history of legal reform in Bangladesh, as in many developing countries, includes numerous instances of well-designed legislation that was enacted without adequate institutional support, enforced inadequately or selectively, or captured by vested interests that diluted its intended effect. A maritime law reform programme that suffers a similar fate would be worse than no reform at all, because it would create the appearance of compliance with international standards while the substantive reality of inadequate governance persisted.

The principal political economy obstacles to comprehensive maritime law reform include the interests of the industrial fishing sector, which benefits from the current weak enforcement of conservation measures and from its preferential access to the political process compared to small-scale fishing communities; the interests of offshore energy operators, whose production sharing contracts were negotiated in a regulatory environment less stringent than a reformed framework would provide, and who may resist renegotiation; the interests of maritime agencies

and ministries that would lose autonomy and jurisdictional territory to a new integrated National Maritime Authority; and the more general institutional inertia of a legal system that has many competing legislative priorities and limited technical capacity for complex maritime law reform.

Overcoming these obstacles requires a carefully designed political strategy as well as a technically sound legal programme. The strategy should build a coalition of support for reform that includes coastal fishing communities and their civil society advocates, environmental organisations, academic institutions including BSMRMU, the maritime industry associations that recognise the commercial value of a well-governed maritime domain, and international partners including the World Bank, the Asian Development Bank, and regional development institutions that have provided support for previous maritime reform efforts. The strategy should also identify and address the legitimate concerns of interests that may initially oppose reform, offering compensatory mechanisms and transition arrangements that reduce the adjustment costs of the new framework.

12.2 The Role of the Judiciary in Maritime Law Development

Bangladesh's courts, particularly the High Court Division and the Appellate Division of the Supreme Court, have an important role to play in the development of maritime law alongside the legislative and executive branches. The courts' role in interpreting existing maritime legislation, developing constitutional environmental rights doctrine, and engaging in public interest litigation on maritime governance failures has been examined in earlier parts of this commentary. In the context of the comprehensive reform programme, the courts' role is both supportive, in providing the institutional enforcement framework for the new legislation, and potentially transformative, in developing the constitutional and common law dimensions of maritime law in ways that complement and reinforce the legislative programme.

The development of specialised maritime courts in Bangladesh, with jurisdiction over maritime commercial disputes, maritime pollution claims, fisheries enforcement cases, and maritime boundary and jurisdictional disputes, is an important element of the institutional reform agenda. Specialised maritime courts can develop the technical expertise and institutional competence to handle the complex legal, scientific, and economic questions that maritime governance disputes involve, providing a level of judicial quality and efficiency that general courts without maritime specialisation cannot readily achieve. The Admiralty jurisdiction of the High Court Division, examined in Part Eighteen of this commentary, provides the existing jurisdictional foundation for maritime commercial litigation; the establishment of a specialist maritime environmental and resources court, with jurisdiction over the regulatory and conservation dimensions of maritime governance, would complement this existing structure.

12.3 Academic and Civil Society Engagement in Maritime Law Development

The development of Bangladesh's maritime law capacity requires sustained investment in the academic study and professional practice of maritime law. The Bangabandhu Sheikh Mujibur Rahman Maritime University, BSMRMU, established in Chittagong, is the principal institutional home of maritime education in Bangladesh, but its capacity in maritime law, as distinct from maritime engineering, navigation, and logistics, needs significant strengthening. The

development of a strong maritime law faculty at BSMRMU, with the capacity to conduct original research on the law of the sea, to advise the government on international maritime law developments, to train the lawyers and civil servants who will implement the reform programme, and to contribute to the international maritime law discourse, is an investment that Bangladesh cannot afford to defer.

Civil society organisations, including environmental NGOs, fishing community advocacy organisations, and human rights groups with a focus on coastal and maritime issues, play an irreplaceable role in holding the government accountable for the performance of its maritime governance obligations and in giving voice to the communities most affected by maritime governance decisions. The legal framework should facilitate rather than constrain civil society engagement with maritime governance, through provisions for public participation in maritime spatial planning, access to information about maritime regulatory decisions, and access to justice including class action mechanisms for communities affected by maritime pollution or governance failures.

12.4 The Controversy over Foreign Fishing Vessel Access and National Fishing Capacity

One of the most practically important and politically sensitive aspects of Bangladesh's maritime resource governance is the question of access by foreign fishing vessels to Bangladesh's EEZ. UNCLOS Article 62 requires the coastal state to allow other states access to any surplus in its allowable catch that it does not have the capacity to harvest itself. Bangladesh's fisheries management plans have consistently found that its domestic fishing capacity is below the allowable catch level for many species, creating an obligation in principle to open the EEZ to foreign fishing. However, the evidence for this conclusion is contested, and the terms on which foreign vessels have been granted access in the past have not always been transparent or beneficial to Bangladesh.

The controversy over foreign fishing access involves several competing interests and perspectives. The government's fisheries management agencies have, in some assessments, found significant surplus catch that domestic vessels cannot harvest, justifying foreign vessel access. Domestic fishing industry associations, particularly those representing small-scale artisanal fishers, have argued that the surplus assessments are based on inadequate stock surveys and underestimate the actual harvest capacity of the artisanal sector, whose boats are often excluded from official statistics. Environmental groups have argued that any foreign vessel access should be conditional on rigorous environmental and conservation standards equivalent to those applied to domestic vessels, and that the IUU fishing risk associated with foreign vessel access must be carefully managed. And BIMSTEC partners, particularly India and Myanmar, have an interest in access to Bangladesh's EEZ for their large distant-water fishing fleets.

The legal framework for managing this controversy should be clear, transparent, and grounded in the best available scientific evidence. The Integrated Maritime Governance Act should require that any decision to grant foreign fishing vessel access to Bangladesh's EEZ be preceded by a rigorous, publicly available stock assessment conducted by independent scientific experts, that the access terms including fees, observer coverage, and catch reporting requirements be made publicly available, and that the environmental and social impact of foreign vessel access be

assessed and reported to Parliament. These procedural requirements would not resolve the substantive disputes about the appropriate level of foreign vessel access, but they would ensure that such decisions are made on a transparent and evidence-based basis rather than through opaque administrative processes susceptible to capture by powerful interests.

CHAPTER 13: THE PHILOSOPHY OF OCEAN GOVERNANCE FOR THE TWENTY-FIRST CENTURY: A SYNTHESIS

13.1 From Sovereignty to Stewardship: The Philosophical Transformation of Ocean Law

The history of the law of the sea, traced in this commentary from the ancient world to the present, is a history of the gradual transformation of the philosophical framework within which ocean governance is understood. In the beginning, the sea was conceptualised in the natural law tradition as res communis, a thing common to all, beyond the reach of any individual or sovereign appropriation. With the emergence of the nation-state and the development of modern international law, the sea was gradually divided between the principle of freedom and the principle of sovereignty, with coastal states exercising increasing jurisdiction over adjacent sea areas while the high seas remained, in principle, open to all. UNCLOS, adopted in 1982, represented the most comprehensive articulation of this balanced framework, allocating extensive sovereign rights to coastal states in a graduated zonal structure while preserving freedom of navigation on the high seas and subjecting the deep seabed to the innovative concept of the common heritage of mankind.

The twenty-first century is witnessing a further philosophical transformation, driven by the convergence of environmental crisis, technological change, and the demands of global justice. The concept of stewardship is emerging as a supplement to, and in some formulations a replacement for, the concept of sovereignty as the organising principle of ocean governance. Where sovereignty emphasises the rights of the coastal state to exploit and control maritime resources within its zones, stewardship emphasises the obligations of the coastal state to manage those resources responsibly, for the benefit not only of its own present population but of future generations and of the global community. This transformation from rights-centred to obligation-centred governance is visible across the whole range of contemporary maritime law developments, from the ITLOS Advisory Opinion's confirmation of due diligence obligations for climate change to the BBNJ Agreement's ecosystem approach to high seas governance, from the rights-based fisheries management frameworks being adopted by progressive coastal states to the constitutional rights of nature being recognised by an increasing number of states.

This philosophical transformation does not repudiate sovereignty; it repositions it within a broader framework of responsibility. Bangladesh's sovereignty over its maritime zones is not diminished by the recognition that this sovereignty comes with obligations of stewardship, of conservation, of environmental protection, and of equitable sharing. Rather, it is enriched and given a deeper ethical content. The sovereign state that exercises its maritime rights responsibly, that manages its fisheries for long-term sustainability, that protects its marine environment for the benefit of present and future generations, and that ensures that the benefits of maritime

resource development reach the most vulnerable members of its coastal communities, exercises a more complete and more legitimate form of sovereignty than the state that merely asserts rights without fulfilling the corresponding obligations.

13.2 John Rawls, the Original Position, and the Governance of the Global Ocean

The philosophical framework of John Rawls, whose Theory of Justice of 1971 developed the concept of the original position and the veil of ignorance as a thought experiment for determining the principles of a just social arrangement, provides an illuminating framework for thinking about the governance of the global ocean. Rawls asked: what principles of justice would rational persons choose if they did not know their position in society, their social class, their natural talents, their conception of the good, or their generation? He argued that they would choose two principles: equal basic liberties for all, and the arrangement of social and economic inequalities in a way that maximises the position of the least advantaged.

Applied to the global ocean, the original position thought experiment yields a powerful argument for the common heritage of mankind principle in its most robust form. If we did not know whether we would be born as citizens of a technologically advanced state with the capacity to exploit deep seabed resources, or as citizens of a small island developing state threatened by sea-level rise and dependent on artisanal fisheries for survival, or as members of a future generation who will inherit whatever marine environment we bequeath them, we would choose principles of ocean governance that gave effective protection to the least advantaged. We would not choose the ambulatory baseline rule that extinguishes the maritime rights of climate-vulnerable states as their coasts retreat. We would not choose a deep seabed governance framework that allows technologically advanced states to appropriate the mineral resources of the common heritage for their own benefit. We would not choose a fisheries governance framework that allows industrial fleets to deplete fish stocks on which subsistence fishing communities depend.

Bangladesh, as one of the states most vulnerable to the consequences of inadequate ocean governance, has a profound philosophical and political interest in advocating for a Rawlsian approach to global ocean governance, one that consistently applies the test of justice to the interests of the least advantaged, that prioritises the stabilisation of maritime boundaries for climate-vulnerable states, and that insists on effective benefit-sharing from the exploitation of global ocean commons. The articulation of this philosophical position, grounded in the Rawlsian tradition, should be an element of Bangladesh's international maritime legal advocacy.

13.3 Hans Jonas, the Imperative of Responsibility, and Intergenerational Maritime Stewardship

The German philosopher Hans Jonas, in his work The Imperative of Responsibility published in 1979, developed a philosophical framework for ethical governance in the age of technology that is directly relevant to the governance of the ocean in the twenty-first century. Jonas argued that the enormous power that modern technology gives human beings to affect the natural world, including the capacity to permanently alter or destroy ecosystems, creates a new ethical imperative: the responsibility to ensure that future generations can inhabit a world adequate for human life. This imperative of responsibility, rooted in the conviction that the vulnerability of

future generations demands the exercise of care by present generations, provides a philosophical foundation for intergenerational sustainability in ocean governance.

For Bangladesh, Jonas's imperative of responsibility has a particular resonance. Bangladesh is experiencing the consequences of the failure of intergenerational responsibility at the global level: the greenhouse gas emissions of previous generations in industrialised countries have created the sea-level rise, ocean acidification, and increased cyclone intensity that threaten the marine environment and the coastal communities of Bangladesh today and will continue to threaten them in the future. The imperative of responsibility, in the Jonasian sense, demands that Bangladesh's own governance of its maritime resources be conducted with the same intergenerational care that it demands from the international community, protecting the fish stocks, the marine ecosystems, and the coastal environment for the generations that will inherit them.

This philosophical alignment between Bangladesh's claims against major emitting states under the doctrine of state responsibility and Bangladesh's own obligations of environmental stewardship is morally significant. Bangladesh cannot credibly demand that other states honour their obligations of due diligence in the marine environmental context while itself failing to honour analogous obligations in the governance of its own maritime zone. The comprehensive reform of Bangladesh's maritime governance framework is therefore not only a strategic imperative for maximising the benefits of Bangladesh's maritime sovereignty; it is also a moral obligation grounded in the philosophy of intergenerational responsibility.

13.4 Capabilities, Vulnerability, and the Justice of Maritime Governance

The capabilities approach, developed by Amartya Sen and Martha Nussbaum as an alternative framework to utilitarian and Rawlsian theories of justice, offers a distinctive perspective on the governance of Bangladesh's maritime resources. Sen's development of the capability approach in Development as Freedom argued that development should be understood not as the maximisation of GDP or aggregate welfare but as the expansion of the real freedoms and capabilities of individuals to live lives they have reason to value. Nussbaum's elaboration of the approach in her work on Women and Human Development identified a list of central human capabilities, including bodily health, bodily integrity, the ability to use the senses and imagination, the ability to live with concern for other species and the natural world, and the ability to participate in political life, that a just social arrangement must protect for all persons.

Applied to the governance of Bangladesh's maritime resources, the capabilities approach demands that the blue economy be evaluated not by aggregate economic metrics like GDP contribution or export earnings but by its effects on the actual capabilities of the most vulnerable persons. Does offshore hydrocarbon development expand or diminish the capabilities of coastal fishing communities? Does the establishment of marine protected areas expand the long-term capabilities of future generations to live in a world with healthy marine ecosystems, and if so, are the short-term costs to present fishing communities justly distributed? Does the governance of maritime shipping protect the capabilities of seafarers to live lives of dignity and safety, or does it perpetuate the exploitation and vulnerability that the MLC was designed to address?

These questions, posed through the lens of the capabilities approach, provide a framework for evaluating the justice of specific maritime governance decisions that goes beyond both the efficiency-centred analysis of conventional economics and the rights-centred analysis of conventional legal theory. The capabilities approach is particularly well-suited to the maritime governance context because it is attentive to the specific vulnerabilities of different groups, recognising that the same formal legal framework can have very different effects on differently situated persons, and that justice requires attention to these differential effects rather than merely the formal equality of the legal rules.

CHAPTER 14: SYNTHESIS AND PROSPECTUS: THE PHILOSOPHY AND POLITICS OF A MARITIME BANGLADESH

14.1 Bangladesh as a Maritime Nation: Identity, History, and Legal Vision

This commentary began, in Part One, with the observation that the sea has always commanded the imagination of philosophers, lawmakers, and sovereigns alike, and that for Bangladesh, a nation born of struggle and shaped by rivers, delta, and ocean, the sea is not merely a geographic boundary but a dimension of national destiny. Nineteen parts later, the fullness of that observation is apparent. The Bay of Bengal, within whose northern embrace Bangladesh sits, is the container and the context of Bangladesh's economic future, its ecological survival, and the international expression of its sovereign identity.

The legal framework through which Bangladesh exercises its maritime sovereignty is the institutional expression of this relationship between nation and ocean. A weak, fragmented, and inadequate legal framework diminishes not merely the efficiency of maritime governance but the dignity of the sovereign claim that Bangladesh asserts over its maritime domain. A comprehensive, principled, and effectively implemented legal framework elevates that claim, gives it institutional substance, and demonstrates to the international community that Bangladesh takes seriously both its maritime rights and its maritime responsibilities.

Bangladesh's legal history in the maritime domain is, as this commentary has documented, a history of achievement and inadequacy in roughly equal measure. The achievement of the maritime boundary arbitrations, which secured 118,813 square kilometres of maritime territory through the effective deployment of international legal strategy, is a source of justified national pride and an example to other developing states of the possibilities of the international legal system. The inadequacy of the domestic legal framework, which has failed to keep pace with Bangladesh's international maritime obligations and with the governance challenges of a complex and valuable maritime domain, is a source of concern and a call to action.

The comprehensive reform agenda that this commentary has developed across nineteen parts, and that is summarised and integrated in this final chapter, is designed to bridge the gap between achievement and adequacy, to build a domestic maritime legal framework worthy of the international legal victories that established Bangladesh's maritime domain. It is ambitious, and it will require sustained political will, institutional investment, and intellectual effort. But it is not

beyond Bangladesh's capacity, as the successful management of the maritime boundary arbitrations demonstrated. Bangladesh has the legal talent, the institutional foundations, and the strategic vision to build the maritime governance framework it needs. What is required is the political will to do so, and the sustained national commitment that such a project deserves.

14.2 The Reform Agenda in Summary: An Integrated Legislative and Institutional Programme

The comprehensive reform programme recommended by this commentary, integrated from the analysis across its nineteen parts, can be summarised as a legislative and institutional agenda with three principal components: constitutional reform, comprehensive primary legislation, and institutional architecture.

The constitutional component involves the adoption of a constitutional provision on maritime sovereignty that gives constitutional status to Bangladesh's maritime boundaries as established by international arbitration, incorporates the principle of baseline stability into the constitutional framework, recognises the rights of coastal communities in the maritime domain as a fundamental constitutional matter, and establishes the protection of the marine environment for future generations as a constitutional obligation. This constitutional provision would provide the ultimate legal foundation for the entire maritime governance framework and would protect the core elements of Bangladesh's maritime legal order from legislative dilution or administrative erosion.

The primary legislative component involves the adoption of the Integrated Maritime Governance Act as the framework statute, followed by the specific instruments identified in Chapter 11 of this Part: the Marine Fisheries and Aquaculture Act, the Offshore Resources Governance Act, the Marine Environment Protection Act, and the Maritime Security Act. These instruments should be developed through an inclusive and transparent legislative drafting process that engages all relevant stakeholders, draws on international best practice and comparative legal analysis, and is informed by the extensive body of commentary and recommendation developed in this twenty-part treatise.

The institutional component involves the establishment of the National Maritime Authority as the apex coordinating body, the development of a National Marine Spatial Plan as the operational framework for integrated maritime governance, the establishment of specialised maritime courts with adequate technical expertise, the strengthening of BSMRMU as the intellectual centre of maritime law development in Bangladesh, and the active engagement of civil society in maritime governance through participatory mechanisms embedded in the legislative framework.

14.3 The International Dimension: Bangladesh as a Voice for Ocean Justice

Bangladesh's comprehensive maritime law reform is not merely a national project. It is also an international contribution. A Bangladesh that has built an exemplary framework of maritime governance, that has demonstrated the compatibility of blue economy development with environmental protection and social justice, and that has implemented the full range of its

international maritime law obligations, would speak with far greater authority in international maritime governance forums than Bangladesh speaks today. The credibility and influence that Bangladesh needs to advance its interests in the BBNJ negotiations, in the ISA, in BIMSTEC maritime governance, and in the international climate justice agenda are best built through the demonstrated performance of domestic maritime governance rather than through advocacy alone.

Bangladesh's history of leadership in international climate diplomacy, including its consistent advocacy for effective climate action, for loss and damage mechanisms, and for the obligations of major emitters toward climate-vulnerable states, has established its international credibility on climate issues. The same approach, grounded in principled advocacy combined with demonstrated domestic performance, should inform Bangladesh's engagement with international maritime governance. A Bangladesh that has enacted comprehensive marine environmental legislation, that has built effective fisheries management institutions, that has protected the rights of coastal communities, and that has honoured its commitments under UNCLOS, the BBNJ Agreement, and the IMO conventions, is a Bangladesh whose voice carries weight in the international maritime legal community.

The vision of Bangladesh as a voice for ocean justice, advancing the interests of climate-vulnerable coastal states, developing countries, small island states, and marginalised fishing communities in the governance of the global ocean, is a vision worth the effort of comprehensive maritime law reform. The legal framework that this commentary has proposed is the institutional infrastructure for that vision. It remains for Bangladesh's lawmakers, its courts, its maritime professionals, its civil society, and its academic community to build that infrastructure and to make the vision a reality.

14.4 A Final Philosophical Reflection: The Sea as Mirror of Human Responsibility

The ancient Romans said of the Mediterranean that it was their sea, Mare Nostrum. The wisdom of the law of the sea is the recognition that no sea belongs to any one people, and that the ocean, whose waters connect every coast and whose resources sustain every maritime community, is in a profound sense the sea of all of us. The governance of the ocean is, at the deepest philosophical level, a test of our collective capacity for responsibility: responsibility to those who depend on the sea for their livelihoods today, responsibility to the communities whose cultural identity is formed by their relationship with the sea, responsibility to the ecosystems whose health sustains all maritime life, and responsibility to the generations who will inherit whatever ocean we leave them.

Bangladesh's location at the head of the Bay of Bengal, its history of suffering and resilience in the face of the sea's most destructive powers, its dependence on the sea's most life-giving gifts, and its legal claim to a portion of the ocean that the international community has confirmed as its own, all place Bangladesh at the centre of this test of collective responsibility. How Bangladesh governs its maritime domain, whether it builds the comprehensive, principled, and equitable legal framework that its maritime inheritance deserves, and whether it advocates effectively in the international arena for the governance principles that justice and sustainability demand, will be among the most consequential questions of its national life in the twenty-first century.

This commentary has been written in the conviction that Bangladesh can meet this challenge, and that the tools of law, philosophy, and institutional design are adequate to the task. The sea is patient, and it is always there. The question is whether Bangladesh's legal system will be worthy of the trust placed in it by the millions of Bangladeshis who depend on the Bay of Bengal for their lives, their livelihoods, and their identity.

CONCLUSION TO PART NINETEEN

Part Nineteen has undertaken the integrative and synthetic work that the penultimate part of a twenty-part commentary should perform. It has examined the doctrine of state responsibility as it applies to maritime obligations, confirming that the 2024 ITLOS and 2025 ICJ Advisory Opinions have significantly expanded the framework of international legal accountability for marine environmental harm and created new opportunities for Bangladesh to advance claims under the doctrine of state responsibility in the climate justice context. It has analysed the jurisprudential revolution of the 2025 ICJ Advisory Opinion on baseline stability, confirming that Bangladesh's maritime zones are legally protected against diminishment through climate-driven coastal change, and arguing that this protection should be incorporated explicitly into Bangladesh's domestic legal framework. It has examined the intersection of the law of the sea with the international law of human rights, identifying the rights of coastal fishing communities, women, asylum seekers, and marginalised coastal populations as dimensions of maritime governance that require specific legal attention. It has analysed the implications of artificial intelligence, autonomous systems, and digital technology for maritime governance, identifying the legislative updates required to integrate these technologies into Bangladesh's maritime law framework. It has engaged with the ongoing crisis in deep seabed governance and the challenge to the common heritage of mankind principle posed by the ISA governance failure and the US executive order. It has considered the future of UNCLOS in the face of climate change, technological transformation, and the South China Sea compliance crisis. It has examined the geopolitics of the Bay of Bengal and Bangladesh's strategic legal position within the theatre of great power competition. It has proposed a comprehensive constitutional and legislative reform programme, centred on the Integrated Maritime Governance Act, the National Maritime Authority, and the National Marine Spatial Plan. And it has synthesised the philosophical frameworks of Rawls, Jonas, Sen, and Nussbaum into a coherent vision of ocean justice that should inform Bangladesh's maritime governance and international advocacy.

Part Twenty, the final part of this commentary, will provide the culminating synthesis: a comprehensive constitutional theory of ocean sovereignty for Bangladesh, the final articulation of the reform agenda across its full twenty parts, and a philosophical and political statement of the vision of maritime Bangladesh that this entire work has sought to construct.

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End of Part Nineteen

Part Twenty will provide the culminating synthesis, constitutional theory, and comprehensive reform prospectus for a sovereign Maritime Bangladesh in the twenty-first century.

PART TWENTY: THE FUTURE HORIZON, COMPREHENSIVE REFORMS, AND BANGLADESH'S MARITIME DESTINY IN A TRANSFORMING OCEAN ORDER

PREFACE TO PART TWENTY

This concluding part of the present work carries a weight that is at once intellectual, political, and civilizational. Having traversed nineteen preceding parts of this textbook, the reader has journeyed through the historical foundations of maritime law, the philosophical controversies embedded in the freedom of the seas doctrine, the juridical architecture of the United Nations Convention on the Law of the Sea, the landmark disputes of Bangladesh with Myanmar and India, the blue economy aspirations of a delta nation, and the intricate tensions between sovereignty and global commons governance. Part Twenty now assumes the task of synthesis, of projection, and of prescription.

But synthesis in this field is no simple exercise. The Law of the Sea in 2025 and 2026 is not the relatively settled regime that commentators celebrated in the early years of the convention's entry into force. It is a living, contested, and rapidly mutating body of norms. The entry into force of the Biodiversity Beyond National Jurisdiction Agreement on January 17, 2026, represents perhaps the most significant structural addition to the international law of the sea since the 1994 Implementation Agreement on Part XI of UNCLOS. The landmark Advisory Opinion of the International Tribunal for the Law of the Sea delivered on May 21, 2024, has transformed our understanding of state obligations under UNCLOS with respect to climate change, opening pathways of legal accountability that were largely unimagined when the convention was drafted in the 1970s. Deep-sea mining governance remains one of the most contested and philosophically fraught frontiers in international resource law. Digital technology, autonomous vessels, artificial intelligence in maritime surveillance, and the governance of underwater cables have introduced entire new dimensions into maritime legal discourse that existing treaty frameworks are poorly equipped to address.

For Bangladesh, a nation that fought for and won its maritime boundaries through international adjudication, that governs one of the most biologically rich and climatologically vulnerable maritime ecosystems on earth, and that aspires to a blue economy as the engine of its next developmental phase, these global transformations are not distant abstractions. They are immediate, existential, and consequential. The choices Bangladesh makes in reforming its maritime legal architecture in the years immediately ahead will shape the lives of millions of

coastal people, the sustainability of marine ecosystems that have nourished the Bengal delta for millennia, and the position of this nation within an increasingly complex and contested global ocean order.

This Part examines those choices with the philosophical seriousness, jurisprudential rigor, and political candor they deserve. It is organized into comprehensive chapters that move from theoretical foundations through institutional analysis, from legislative critique through reform prescription, from historical perspective through future projection. The analysis draws on the full body of scholarship, jurisprudence, philosophy of law, political theory, and comparative experience that has accumulated across the preceding nineteen parts of this work, supplementing that foundation with the most recent developments in international law, state practice, and academic debate as of early 2026.

The reader approaching this chapter should understand that what follows is not merely a summary of what has come before. It is a sustained argument, a commentary in the classical sense, that the Law of the Sea of Bangladesh stands at a historic crossroads, and that the path taken from this crossroads will determine whether Bangladesh emerges as a genuine maritime power of the twenty-first century or remains, despite its legal victories, a nation that possesses maritime rights without the institutional capacity, legislative coherence, or philosophical clarity to exercise them fully.

CHAPTER ONE: THE JURISPRUDENTIAL FOUNDATIONS OF REFORM IN MARITIME LAW

1.1 Law as a Living System: Jurisprudential Premises

Any serious program of legal reform must begin not with a catalogue of deficiencies but with an account of what law is supposed to accomplish. This requires a jurisprudential starting point. The question of what makes law legitimate, what gives legal norms their binding force, and what obligations a state has toward its own citizens and the international community in the exercise of maritime jurisdiction are not peripheral questions. They are the very foundation upon which reform proposals must be built.

In the classical tradition of jurisprudence, the dominant frameworks for understanding international law have oscillated between natural law foundations and positivist approaches. The natural law tradition, running from Grotius through Vattel to contemporary natural lawyers like John Finnis, holds that legal norms derive their ultimate authority from principles of reason and justice that transcend positive enactment. Grotius himself, in his foundational work Mare Liberum published in 1609, grounded the freedom of the seas in natural law principles, arguing that the oceans were by their nature incapable of private appropriation and that the freedom of navigation and fishing was a right grounded in natural reason itself. This argument, though contested and eventually modified by the development of territorial seas and exclusive zones, established the philosophical template upon which the modern law of the sea was constructed.

The positivist tradition, by contrast, insists that the authority of international legal norms derives from the consent of states expressed through treaties, custom, and other recognized sources of international law. For positivists of the Hartian tradition, the law of the sea is valid because states have agreed to it, because it is systematically recognized, and because it is backed by whatever enforcement mechanisms the international system provides. The validity of UNCLOS, on this account, rests entirely on the fact that states have ratified it, not on any claim that its provisions reflect natural justice or reason.

For Bangladesh, this jurisprudential debate is not merely academic. It has direct practical implications for how the nation approaches reform. If maritime law is understood in purely positivist terms, then reform consists essentially of identifying gaps and inconsistencies in existing treaty obligations and filling them through new agreements, domestic legislation, or judicial interpretation. The question becomes: what does the law say, and how can we change it? But if maritime law is understood as embedded in broader principles of justice, equity, and sustainability, then reform has a more demanding agenda. It must ask not merely what the law currently permits but what a just maritime order would look like, and how existing legal structures can be shaped to approximate that ideal.

The contemporary jurisprudence of the Law of the Sea has increasingly moved toward a more complex, pluralistic understanding that resists the sharp dichotomy between natural law and positivism. The influence of Ronald Dworkin's interpretivism, which holds that law consists not merely of rules but of principles that figure in the best moral and political interpretation of legal practice, has been felt in maritime law scholarship. The rise of global administrative law as an analytical framework, developed most influentially by Benedict Kingsbury and his collaborators, has introduced administrative law principles of transparency, participation, reasoned decision-making, and review into the analysis of international maritime governance bodies such as the International Seabed Authority and the Commission on the Limits of the Continental Shelf. The growing importance of feminist jurisprudence and third-world approaches to international law (TWAIL) has challenged the assumed universality of UNCLOS's framework and highlighted the ways in which that framework reflects particular geopolitical and economic interests.

For Bangladesh, a state that has experienced colonialism, that identifies strongly with the Global South, and that has articulated its maritime aspirations partly in terms of developmental justice and blue economy equity, the TWAIL critique of UNCLOS is particularly relevant. Scholars working in the TWAIL tradition, including Antony Anghie, B.S. Chimni, and Makau Mutua, have argued that international law, including the law of the sea, has historically served to entrench and legitimize structures of inequality between the global North and the global South. The provisions of UNCLOS relating to deep-sea mining, technology transfer, and the common heritage of mankind were explicitly designed to address these inequalities, but their implementation has been contested in ways that have often frustrated the developmental aspirations of poorer states.

Bangladesh's reform agenda, properly understood, must engage with these jurisprudential debates. It cannot content itself with a technically competent but philosophically unreflective approach to maritime law reform. The question of what kind of maritime legal order Bangladesh

wants to create, and what philosophical principles should guide that creation, is as important as the question of which specific statutes need amendment.

1.2 The Philosophical Foundations of Ocean Governance

The philosophical foundations of ocean governance in international law rest on several key principles that have evolved over centuries and that continue to shape contemporary debates. Understanding these principles, their historical development, and the tensions among them is essential to any coherent reform program.

The first and most fundamental principle is the freedom of the seas, articulated in its modern form by Hugo Grotius in the early seventeenth century. Grotius's argument, drawing on Roman law concepts of res communes, held that the sea and the air were by nature common to all, incapable of occupation and therefore open to all for navigation and fishing. This principle served the commercial and navigational interests of the Netherlands in the early modern period, but it also expressed a genuine philosophical commitment to the idea that certain resources are so fundamental to human flourishing that they cannot be enclosed by any private or sovereign authority.

The second principle, which exists in tension with the first, is the sovereign authority of coastal states over adjacent maritime zones. This principle, developed through customary international law and eventually codified in UNCLOS, recognizes that coastal states have legitimate interests in the resources and activities of their adjacent seas that justify granting them exclusive rights over defined maritime zones. The territorial sea, the contiguous zone, the exclusive economic zone, and the continental shelf are all expressions of this principle of coastal state authority. The philosophical foundation of this principle is not merely self-interest but a broader claim about the relationship between territory, sovereignty, and the capacity for responsible stewardship of resources.

The third principle, which UNCLOS attempted to introduce with revolutionary ambition, is the common heritage of mankind. Articulated in the context of the deep seabed by Ambassador Arvid Pardo of Malta in 1967, this principle holds that the resources of the international seabed Area are the common heritage of all humanity and cannot be claimed or exploited by any state or private entity for its own exclusive benefit. The common heritage principle represents a genuinely novel philosophical claim in international law: that there are resources and spaces that belong not to states, not to humanity in the aggregate, but to humanity as a collective entity, including future generations. This principle has profound implications for questions of intergenerational equity, environmental protection, and the governance of global commons.

The fourth principle, which has gained increasing prominence in recent decades, is the principle of sustainable development and intergenerational equity. This principle, popularized by the Brundtland Commission in 1987 and subsequently incorporated into international law through Agenda 21, the Rio Declaration, and numerous treaty provisions, holds that the development of natural resources must be conducted in a manner that does not compromise the ability of future generations to meet their own needs. In the maritime context, this principle has important

implications for fisheries management, deep-sea mining, and the protection of marine ecosystems.

The fifth principle, which has emerged most forcefully in the context of climate change, is the principle of prevention and the precautionary approach. UNCLOS contains in its Part XII provisions on the protection and preservation of the marine environment that express a duty of states to prevent, reduce, and control marine pollution. The ITLOS Advisory Opinion of May 2024 has given new force to these provisions by interpreting them in light of contemporary climate science and establishing that states have a stringent due diligence obligation to reduce anthropogenic greenhouse gas emissions that harm the marine environment.

For Bangladesh, each of these principles has direct relevance to the reform of its maritime legal framework. The freedom of the seas is relevant to Bangladesh's interests as a trading nation that depends on freedom of navigation for its international commerce. The principle of coastal state authority is the foundation of Bangladesh's sovereign rights over its exclusive economic zone and continental shelf, rights that were vindicated in its disputes with Myanmar and India. The common heritage principle is relevant to Bangladesh's interests as a developing state in the governance of deep-sea mining. The principle of sustainable development is fundamental to the coherence of Bangladesh's blue economy aspirations. And the principles of prevention and precaution are directly relevant to Bangladesh's status as a climate-vulnerable nation that has already experienced significant coastal erosion, sea-level rise, and extreme weather events.

1.3 Rawlsian Justice and the Maritime Order

The political philosophy of John Rawls, particularly as developed in A Theory of Justice and The Law of Peoples, offers a useful framework for evaluating the justice of existing maritime law and articulating principles for its reform. Rawls's theory of justice, grounded in the thought experiment of the original position behind a veil of ignorance, holds that just institutions are those that rational persons would choose if they did not know their place in society, their class or social status, their fortune in the distribution of natural assets and abilities, their conception of the good, or the particular circumstances of their society.

Applied to the international law of the sea, the Rawlsian framework generates some challenging conclusions. A rational person behind a veil of ignorance, not knowing whether they would be born in a rich maritime state with advanced naval technology or a poor coastal state with long coastlines and large exclusive economic zones but limited capacity to exploit them, would likely not choose the current framework of the Law of the Sea. That framework, while formally egalitarian in granting all coastal states sovereign rights over defined maritime zones, is substantively unequal in the degree to which different states can actually exercise and benefit from those rights. A state like Bangladesh, with a large exclusive economic zone and significant marine resources, but with limited naval capacity, technological capability, and institutional infrastructure, is formally entitled to the same sovereign rights as the United States, Russia, or China, but is practically far less capable of exercising those rights effectively.

The Rawlsian critique suggests that a just maritime order would include more robust mechanisms for ensuring that developing coastal states can meaningfully exercise their sovereign

rights, more effective technology transfer obligations, more equitable sharing of the benefits of deep-sea resource exploitation, and greater financial and technical assistance for building the institutional capacity of developing maritime states. These prescriptions align remarkably closely with the aspirations expressed in the original negotiations of UNCLOS, particularly in the provisions on the common heritage of mankind, technology transfer, and special treatment for developing states, but they have been largely frustrated in practice.

The Law of Peoples, Rawls's later extension of his theory to international justice, is more conservative than A Theory of Justice in its prescriptions for international redistribution. Rawls argued in The Law of Peoples that the primary obligation of just international institutions is to create fair background conditions that allow all peoples to develop sustainable institutions, rather than requiring ongoing redistribution. But even on this more modest account, the current international maritime order is difficult to justify, given the significant ways in which historical inequalities, colonial legacies, and structural asymmetries in power and knowledge shape the capacity of different states to benefit from maritime law.

For Bangladesh specifically, the Rawlsian framework supports a reform agenda that emphasizes capacity building, technology transfer, equitable benefit-sharing from the Area, and more robust mechanisms for ensuring that the sovereign rights conferred by UNCLOS translate into actual developmental benefits. It also supports Bangladesh's advocacy for strong climate change obligations under UNCLOS, since it is developing coastal states, not industrialized nations, that bear the greatest burdens of climate-induced sea-level rise and extreme weather events.

1.4 Habermasian Communicative Action and Maritime Governance

The political philosophy of Jurgen Habermas, particularly his theory of communicative action and his concept of deliberative democracy, offers another powerful framework for evaluating and reforming the governance structures of international maritime law. Habermas argues that legitimate political authority rests on communicative action, that is, on processes of reasoned deliberation and argumentative discourse through which participants reach agreement on the basis of the force of the better argument rather than on the basis of strategic self-interest or coercion.

Applied to international maritime governance, the Habermasian framework highlights important deficiencies in existing institutions and processes. The International Seabed Authority, which governs the exploitation of the international seabed Area, makes decisions through processes that, while formally inclusive, are substantially shaped by the interests and preferences of technologically advanced states and commercial operators. The participation of developing states in ISA decision-making is often limited by knowledge asymmetries, resource constraints, and the complexity of the technical issues involved. A Habermasian account of legitimate maritime governance would require much more robust mechanisms for ensuring that all affected parties, including coastal communities, small island developing states, and developing coastal nations like Bangladesh, can participate meaningfully in deliberations about the governance of the oceans.

The Habermasian framework is also relevant to the domestic dimension of maritime law reform in Bangladesh. The development of maritime legislation, policy, and institutional frameworks in Bangladesh has historically been a relatively technocratic process, driven primarily by government officials and occasionally by international organizations, with limited participation by the fishing communities, coastal populations, and civil society organizations that are most directly affected by maritime governance decisions. A communicative approach to maritime governance would require much more robust mechanisms of public deliberation, stakeholder participation, and democratic accountability in the development of Bangladesh's maritime legal framework.

This philosophical perspective connects directly to recent developments in ocean governance theory. The concept of ocean democracy, advanced by scholars such as Yoshifumi Tanaka and Nilufer Oral, emphasizes the importance of inclusive, participatory, and transparent processes in maritime governance. The blue justice framework, developed in response to the blue economy discourse, insists that the benefits and burdens of ocean resource use must be distributed equitably, with particular attention to the rights and interests of small-scale fishing communities and other vulnerable groups. These frameworks represent important contributions to the normative theory of maritime governance and should inform Bangladesh's reform agenda.

CHAPTER TWO: THE ARCHITECTURE OF UNCLOS AND ITS EVOLVING INTERPRETATION

2.1 UNCLOS as a Constitutional Framework for the Oceans

UNCLOS has often been described as a constitution for the oceans. This characterization, while evocative, requires careful examination. A constitution, in the political theory sense, is a foundational document that establishes the basic framework of governance, defines the rights and powers of different actors, and provides the normative standards against which the validity of other legal acts is measured. In what sense does UNCLOS function as a constitutional document for the oceans?

First, UNCLOS establishes a comprehensive framework that addresses virtually every aspect of ocean governance: navigation rights, maritime zones, the rights and duties of states in different zones, the governance of the international seabed Area, the protection of the marine environment, marine scientific research, the transfer of marine technology, and the settlement of disputes. This comprehensiveness gives UNCLOS a constitutional quality in the sense that it provides the basic grammar of ocean governance within which other rules must operate.

Second, UNCLOS has achieved near-universal ratification, with 169 state parties as of early 2026. This breadth of acceptance has given the convention a quasi-universal character that reinforces its claim to constitutional status. Even states that have not ratified UNCLOS, most notably the United States, generally acknowledge that many of its provisions reflect customary international law and are therefore binding regardless of ratification.

Third, UNCLOS established permanent institutions, particularly the International Tribunal for the Law of the Sea and the International Seabed Authority, that have developed their own body of practice and jurisprudence. The ITLOS, through its judgments and advisory opinions, has developed a body of case law that interprets and develops the provisions of UNCLOS in ways that have constitutional significance for the evolution of maritime law.

But the analogy between UNCLOS and a constitution is imperfect in important ways. Unlike a domestic constitution, UNCLOS lacks an authoritative interpretive body with compulsory jurisdiction. The dispute settlement system established in Part XV of UNCLOS provides compulsory jurisdiction in certain circumstances, but states can opt out of these mechanisms for certain categories of disputes, and the decisions of ITLOS and arbitral tribunals under Annex VII and Annex VIII are binding only on the parties to the specific dispute. There is no equivalent of a supreme court with universal jurisdiction to develop binding interpretations of UNCLOS.

Moreover, UNCLOS was adopted in 1982 and reflects the state of knowledge, technology, and political priorities of that period. While the convention was designed with sufficient flexibility to accommodate future developments, it has proven increasingly strained in addressing challenges that could not have been anticipated at the time of its drafting, including climate change, deep-sea mining at commercial scale, digital connectivity infrastructure on the seabed, autonomous marine vehicles, and the governance of marine genetic resources. The BBNJ Agreement, which entered into force on January 17, 2026, represents the most significant effort to date to fill one of these gaps, establishing a comprehensive framework for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction.

2.2 The Evolution of ITLOS Jurisprudence

The jurisprudence of the International Tribunal for the Law of the Sea has evolved significantly since the tribunal's establishment and has increasingly reflected the broader context of international law, including environmental law, human rights law, and climate change obligations. Understanding this evolution is essential to appreciating both the current state of UNCLOS interpretation and the prospects for further development.

The landmark Advisory Opinion of May 21, 2024, delivered in response to a request from the Commission of Small Island States on Climate Change and International Law, represents a watershed moment in the development of ITLOS jurisprudence. For the first time, an international tribunal issued an advisory opinion specifically addressing state obligations under UNCLOS with respect to climate change mitigation. The Tribunal found that UNCLOS, particularly its provisions on the protection and preservation of the marine environment in Part XII, imposes stringent obligations on state parties to take all necessary measures to prevent, reduce, and control marine pollution from anthropogenic greenhouse gas emissions. The Tribunal adopted a due diligence standard for these obligations but characterized that standard as particularly stringent given the gravity and immediacy of the threat that climate change poses to the marine environment.

The 2024 Advisory Opinion is philosophically significant for several reasons. First, it demonstrates the capacity of the ITLOS, through the tool of systemic integration under the

Vienna Convention on the Law of Treaties, to interpret UNCLOS in light of developments in other branches of international law, including the Paris Agreement and the body of climate science reflected in the reports of the Intergovernmental Panel on Climate Change. This interpretive approach opens the possibility of a dynamic understanding of UNCLOS obligations that can respond to emerging scientific and normative developments without requiring formal amendment of the convention.

Second, the Advisory Opinion has potentially significant implications for the liability of major greenhouse gas emitting states for the damage caused to the marine environments of vulnerable coastal states and small island developing states. While the Advisory Opinion itself does not create direct liability obligations, its characterization of climate change as a form of marine pollution under UNCLOS creates the conceptual foundation for future claims by affected states.

For Bangladesh, a state that has experienced significant climate-related coastal erosion and sea-level rise, and whose maritime zones are particularly vulnerable to climate impacts, the 2024 Advisory Opinion is highly relevant. Bangladesh has been an active participant in international climate negotiations and has consistently advocated for strong obligations on major emitters. The ITLOS Advisory Opinion provides important legal support for Bangladesh's position and opens potential avenues for legal advocacy that go beyond the climate negotiating framework.

The earlier ITLOS case law involving Bangladesh directly, particularly the 2012 Judgment in Bangladesh v. Myanmar, also reflects the evolving jurisprudence of the Tribunal. In that case, the Tribunal applied the concavity principle to adjust the equidistance line in Bangladesh's favor, recognizing that the concave coastline of Bangladesh would have produced a disproportionate effect if strict equidistance had been applied. The Tribunal's reasoning in that case drew on principles of equity that have deeper philosophical roots than mere technical calculation, reflecting the influence of the equitable principles doctrine that has been central to maritime delimitation jurisprudence since the North Sea Continental Shelf cases of 1969.

The 2014 Award in Bangladesh v. India by the Permanent Court of Arbitration further developed the methodology for maritime delimitation in contexts involving concave coastlines and overlapping claims. The Tribunal's application of the equidistance-relevant circumstances method, with adjustments to account for the specific geographic circumstances of the Bay of Bengal, has become an important precedent for maritime delimitation disputes in similar geographic contexts.

2.3 The BBNJ Agreement and Its Implications for Bangladesh

The Biodiversity Beyond National Jurisdiction Agreement, which was adopted on June 19, 2023, and entered into force on January 17, 2026 as the third implementing agreement to UNCLOS, represents a historic development in international maritime law. The agreement establishes a comprehensive legal framework for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, addressing four main elements: marine genetic resources, including the question of benefit-sharing; area-based management tools, including marine protected areas; environmental impact assessments; and capacity-building and the transfer of marine technology.

The BBNJ Agreement is philosophically significant because it represents a genuine attempt to operationalize the common heritage principle in the context of marine biological diversity. The provisions on the sharing of benefits from the use of marine genetic resources draw on the Nagoya Protocol's access and benefit-sharing framework while adapting it to the specific context of the high seas. The mechanism for establishing marine protected areas in areas beyond national jurisdiction, including the high seas of the Bay of Bengal that lie beyond Bangladesh's exclusive economic zone, creates new governance structures that will require engagement and participation by coastal states like Bangladesh.

For Bangladesh specifically, the BBNJ Agreement creates both opportunities and challenges. The agreement's provisions on capacity-building and technology transfer could support Bangladesh in developing its scientific and institutional capacity to participate in the governance of areas beyond national jurisdiction. The benefit-sharing provisions could generate resources that support Bangladesh's efforts to develop and conserve its own marine biological diversity. The provisions on environmental impact assessments could provide Bangladesh with tools to challenge activities in the high seas that threaten the marine environment of the Bay of Bengal.

At the same time, the BBNJ Agreement creates new obligations and institutional requirements. Bangladesh will need to engage with the new institutions established under the agreement, including the Conference of the Parties and its subsidiary bodies. The agreement's provisions on marine genetic resources will require Bangladesh to develop domestic legislation governing its own collection and sharing of marine biological diversity. The provisions on marine protected areas will require Bangladesh to participate in regional discussions about the governance of the Bay of Bengal beyond national jurisdiction.

Bangladesh's early ratification of the BBNJ Agreement is a positive signal of its commitment to the new high seas governance framework. However, ratification is only the beginning. The real challenge lies in building the institutional capacity, developing the domestic legislative framework, and cultivating the scientific expertise necessary to participate meaningfully in the implementation of the agreement and to advance Bangladesh's interests in the new governance regime.

CHAPTER THREE: THE LEGISLATIVE LANDSCAPE OF BANGLADESH'S MARITIME LAW

3.1 The Historical Development of Bangladesh's Maritime Legislation

Understanding the current state of Bangladesh's maritime legislation requires a historical perspective that goes back beyond independence to the colonial period. The foundations of Bangladesh's maritime legal framework were laid during the British colonial era, when maritime law in the Bengal region was governed primarily by British imperial legislation, including the Merchant Shipping Act of 1894, the Port Act of 1908, and various customs and navigation regulations. These colonial statutes reflected the legal priorities and administrative needs of a colonial power primarily interested in facilitating trade and protecting its commercial and naval

interests, rather than in establishing a comprehensive framework for the governance of marine resources or the protection of the marine environment.

After the partition of British India in 1947 and the creation of East Pakistan, Bangladesh's coastal territory came under the jurisdiction of Pakistani maritime law, which was itself largely a continuation and modification of the colonial framework. The experience of governing a coastal territory separated from the main body of the state by a thousand miles of Indian territory created some distinctive maritime administrative challenges that contributed to the development of maritime law in East Pakistan, but no systematic reform of the colonial framework was undertaken.

Following the independence of Bangladesh in 1971, the new state inherited the Pakistani maritime legal framework, which was itself largely colonial in origin. The immediate priorities of the post-independence government were economic reconstruction and political consolidation rather than maritime law reform, and the development of a comprehensive national maritime legal framework proceeded only slowly in the years following independence.

The Territorial Waters and Maritime Zones Act of 1974 was the first significant piece of maritime legislation enacted by independent Bangladesh. This act established Bangladesh's claims to a territorial sea, contiguous zone, exclusive economic zone, and continental shelf, in anticipation of the emerging framework of UNCLOS that was then under negotiation. The 1974 Act was subsequently amended multiple times to bring it into conformity with the final text of UNCLOS following Bangladesh's ratification of the convention in 2001, most recently by the Territorial Waters and Maritime Zones (Amendment) Act of 2021.

The Maritime Zones Act of 2018, later revised and consolidated as the Maritime Zones Act of 2019, represented a significant modernization of Bangladesh's primary maritime legislation. This act established a more comprehensive framework for the governance of Bangladesh's maritime zones, including provisions on the rights and duties of foreign vessels, the authority of Bangladesh to enforce its laws in different zones, and the conservation and management of marine resources. The 2019 Act drew on comparative experience from other states and on the provisions of UNCLOS, representing a significant improvement over its predecessors.

The Merchant Shipping Act of 2018 modernized Bangladesh's legislation governing merchant shipping and maritime commerce, replacing the colonial-era framework with a more contemporary approach that reflects international conventions on maritime safety, liability, and environmental protection. The 2021 Amendment to the Territorial Waters and Maritime Zones Act incorporated provisions on maritime piracy and armed robbery in compliance with Article 101 of UNCLOS, responding to security concerns in the Bay of Bengal.

Despite these legislative developments, significant gaps and deficiencies remain in Bangladesh's maritime legal framework. As the Business Standard noted in January 2022, Bangladesh desperately needs a comprehensive maritime law that addresses the full range of maritime governance challenges it faces, from marine resource management to environmental protection, from maritime security to blue economy development. The existing legislative framework

remains fragmented across multiple statutes, with significant overlaps, inconsistencies, and lacunae.

3.2 An Analysis of the Current Legislative Framework

An analysis of Bangladesh's current maritime legislative framework reveals several structural deficiencies that significantly impair effective maritime governance.

The first and perhaps most fundamental deficiency is fragmentation. Maritime governance in Bangladesh is divided across multiple statutes enacted at different times for different purposes, with no comprehensive codification or systematic integration. The Territorial Waters and Maritime Zones Act governs the basic framework of maritime zones. The Merchant Shipping Act governs commercial shipping and maritime commerce. The Bangladesh Shipping Corporation Act governs the state shipping enterprise. The Fisheries Act governs fisheries management in inland waters and has been extended with difficulty to marine fisheries. The Environmental Conservation Act provides a general framework for environmental protection that applies, with varying degrees of effectiveness, to the marine environment. The Ports Act governs port administration. The Customs Act governs customs enforcement in maritime zones. The Coast Guard Act governs the Bangladesh Coast Guard. And various other statutes govern specific aspects of maritime activity, including offshore petroleum exploration, maritime labor, and marine scientific research.

This fragmented legislative landscape creates multiple problems for effective maritime governance. Different agencies administer different statutes, often without adequate coordination. Conflicting definitions and standards appear in different laws. Jurisdictional overlaps create uncertainty and administrative inefficiency. Gaps in coverage leave important aspects of maritime activity without adequate legal regulation. The complexity of the framework makes compliance difficult for maritime operators and impairs Bangladesh's ability to fulfill its international maritime obligations.

The second major deficiency is the age and inadequacy of many existing statutes. Despite recent modernization efforts, significant portions of Bangladesh's maritime legislative framework remain rooted in colonial-era legislation that is fundamentally ill-suited to the governance challenges of the twenty-first century. The Port Act of 1908, the Docks Labourers Act of 1934, and other colonial-era statutes continue to apply, creating incongruities and anachronisms in the legal framework.

The third deficiency is the inadequacy of the existing framework to address emerging maritime governance challenges. Bangladesh's maritime legislation does not provide a comprehensive framework for the governance of offshore oil and gas exploration and production, despite the fact that Bangladesh's exclusive economic zone contains significant hydrocarbon resources and Petrobangla announced an offshore bid round in 2024. There is no specific legislation on marine genetic resources or bioprospecting, despite the growing economic and scientific importance of marine biological diversity. Legislation on deep-sea mining, autonomous marine vehicles, underwater cables, and other emerging maritime activities is entirely absent. The existing

framework for environmental impact assessment in the marine environment is inadequate and inconsistent with international best practice.

The fourth deficiency is the weakness of enforcement mechanisms. Even where adequate substantive law exists, the capacity of Bangladesh to enforce that law in its maritime zones is severely constrained by the limited resources and capabilities of enforcement agencies, including the Bangladesh Coast Guard, the Bangladesh Navy, and the Department of Fisheries. The result is widespread non-compliance with fisheries regulations, marine environmental protection standards, and other maritime requirements.

3.3 Comparative Perspectives on Maritime Legal Reform

Understanding how other states have approached maritime legal reform provides important insights for Bangladesh's own reform agenda. Several comparative examples are instructive.

India, Bangladesh's largest neighbor, has undertaken significant maritime law reform in recent decades, culminating in the Maritime Zones of India Act and related legislation that provides a more comprehensive framework for the governance of India's maritime zones. India has also developed specialized legislation on offshore petroleum exploration, fisheries management, and coastal zone regulation, though commentators have noted that significant gaps and inconsistencies remain in the Indian framework as well. The establishment of the Ministry of Ports, Shipping and Waterways as a dedicated maritime ministry in India reflects a recognition that maritime governance requires dedicated institutional attention at the cabinet level.

Sri Lanka, which has a more developed maritime legal framework than Bangladesh in several respects, provides useful comparative insights. Sri Lanka enacted comprehensive maritime zone legislation in the 1970s, has developed specific legislation on offshore petroleum, fisheries, and maritime security, and has established the Ministry of Ports, Shipping and Aviation as a dedicated maritime policy body. Sri Lanka's experience in managing maritime disputes and in developing its blue economy also provides useful lessons, both positive and negative, for Bangladesh.

Australia, which manages one of the largest maritime estates in the world, has developed an exceptionally comprehensive maritime legal framework that integrates domestic legislation, international treaty obligations, and institutional arrangements in a coherent and effective manner. Australia's Offshore Petroleum and Greenhouse Gas Storage Act, its Environment Protection and Biodiversity Conservation Act, and its various fisheries statutes provide a sophisticated model for integrated maritime resource governance. Australia's approach to maritime boundary management, including its establishment of a dedicated unit within the Attorney-General's Department to manage maritime boundary issues, also provides instructive models for Bangladesh.

Norway, despite its very different geographic and economic context, offers perhaps the most instructive international comparison for Bangladesh's maritime reform ambitions. Norway has developed a reputation as perhaps the world's most sophisticated maritime nation, with a comprehensive and coherent legal framework that integrates petroleum governance, fisheries

management, environmental protection, and maritime security into a coherent national maritime strategy. Norway's petroleum governance model, including its Government Pension Fund Global, has been widely studied and selectively adopted by other resource-rich states seeking to translate maritime resource wealth into sustainable developmental benefits.

The comparative lesson from these examples is not that Bangladesh should simply transplant models from other jurisdictions, which would be both impractical and jurisprudentially inappropriate. Rather, the lesson is that effective maritime governance requires comprehensive, integrated, and coherent legislation supported by adequate institutional capacity and genuine political commitment. The specific design of that legislative framework must reflect Bangladesh's particular geographic, economic, political, and cultural context, but the general requirements of comprehensiveness, integration, and coherence are universal.

CHAPTER FOUR: THE BLUE ECONOMY, GOVERNANCE, AND EQUITY

4.1 The Blue Economy Concept: Philosophical and Political Dimensions

The concept of the blue economy has emerged as the dominant framework for discussions of ocean resource governance and development in recent years. But the blue economy is not a politically neutral concept. It is a site of significant contestation among different actors, interests, and values, and understanding those contestations is essential to developing a coherent blue economy strategy for Bangladesh.

The mainstream blue economy discourse, as promoted by the World Bank, the Food and Agriculture Organization, and many developed coastal states, tends to emphasize economic growth, investment, and the development of maritime industries as the primary objectives of blue economy policy. On this account, the blue economy is essentially an extension of conventional economic development thinking to the marine domain, with sustainability considerations added as an important but secondary constraint. The focus is on growing maritime GDP, creating maritime jobs, and developing maritime industries such as shipping, offshore petroleum, aquaculture, maritime tourism, and emerging sectors like marine biotechnology and offshore wind energy.

But this mainstream discourse has been challenged by a growing body of critical scholarship that emphasizes the equity dimensions of ocean resource use and the risks that conventional blue economy approaches pose to marine ecosystems and coastal communities. The blue justice movement, which has been developed by scholars and civil society organizations working with small-scale fishing communities, argues that the blue economy discourse often serves to legitimize the displacement of traditional fishing communities from their coastal and marine resource base in favor of large-scale commercial enterprises. The blue grabbing phenomenon, analogous to the land grabbing that has been documented extensively in terrestrial contexts, refers to the appropriation of coastal and marine spaces and resources by powerful economic actors at the expense of local communities that have historically depended on those spaces and resources for their livelihoods.

For Bangladesh, these equity concerns are of paramount importance. The marine and coastal fisheries of the Bay of Bengal are not primarily exploited by large commercial enterprises but by millions of small-scale fishers who depend on the sea for their livelihoods and their food security. The blue economy aspirations of the Bangladeshi government, which include the development of deep-sea fishing, offshore petroleum, maritime tourism, and other large-scale maritime industries, carry significant risks for these fishing communities if they are pursued without adequate attention to their rights, interests, and livelihoods.

The philosophical framework of the blue economy concept also raises important questions about the relationship between economic growth and ecological sustainability. The dominant conception of the blue economy assumes that economic development and environmental protection are ultimately compatible, that sustainable development is achievable through appropriate governance and technology. But critical ecologists and environmental philosophers have challenged this assumption, arguing that the scale of human economic activity has already exceeded the ecological boundaries of the planet's life-support systems, and that no amount of technological optimization or governance improvement can make an indefinitely growing global economy compatible with ecological sustainability.

For Bangladesh, which faces existential threats from climate change and sea-level rise that are themselves products of the global fossil fuel-dependent development model, this philosophical question has direct practical significance. A blue economy strategy that is genuinely committed to sustainability must confront, not merely paper over, the fundamental tensions between economic development and ecological limits. This requires not merely technical improvements in environmental management but a deeper rethinking of development objectives and priorities.

4.2 Marine Fisheries Governance and the Rights of Fishing Communities

The governance of marine fisheries is perhaps the most immediate and consequential aspect of maritime governance for the majority of Bangladeshis who are directly affected by the management of the sea. Bangladesh has approximately five million people directly employed in the fisheries sector, with many millions more indirectly dependent on fishing-related activities. The marine fisheries of the Bay of Bengal, which include approximately 457 commercially significant fish species in Bangladesh's exclusive economic zone alone, represent a critical source of food, livelihoods, and export earnings.

The governance of marine fisheries in Bangladesh suffers from a range of well-documented deficiencies. The Department of Fisheries, which is responsible for fisheries management, is chronically under-resourced and lacks the capacity to conduct the scientific assessments, monitoring operations, and enforcement activities necessary for effective management. The legal framework for marine fisheries management is fragmented and in many respects inadequate, with the Marine Fisheries Act of 2020 representing a significant improvement but still leaving important gaps.

The most fundamental challenge in marine fisheries governance is the control of fishing effort. Bangladesh's marine fisheries are severely overexploited, with most commercial species already harvested at or beyond maximum sustainable yield levels. The primary cause of this

overexploitation is the vast expansion of fishing effort in Bangladesh's waters over the past several decades, driven by population growth, poverty, and the absence of alternative livelihoods for coastal communities. Attempts to control fishing effort through licensing, gear restrictions, and seasonal closures have been only partially effective because of inadequate enforcement capacity and the desperate economic circumstances of fishing communities.

The legal framework for fisheries management must grapple with a fundamental distributive justice question: how should the benefits of marine fisheries be shared among the different users of the resource? This question has both intragenerational and intergenerational dimensions. Within the current generation, there are conflicts between large-scale commercial fishing enterprises and small-scale artisanal fishers, between fishing communities and tourism or aquaculture operators, and between Bangladeshi fishers and the fishers of neighboring states who may poach in Bangladesh's waters. Across generations, there is the fundamental challenge of managing a shared natural resource in a manner that ensures that future generations have access to comparable or better marine resources than the present generation.

The international human rights framework, which has increasingly been applied to fishing rights and coastal livelihoods, provides important normative resources for addressing these distributive justice questions. The United Nations Guidelines for Small-Scale Fisheries, adopted by the Committee on Fisheries in 2015, recognize the importance of small-scale fishing communities and their traditional rights to access marine resources. The International Labour Organization's Work in Fishing Convention, which Bangladesh has ratified, establishes minimum labor standards for workers in the fishing sector. The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, adopted by the General Assembly in 2018, includes provisions relevant to the rights of fishing communities.

Bangladesh's fisheries governance reform agenda must integrate these human rights dimensions with the ecological and economic dimensions of sustainable fisheries management. This means developing a legal framework that recognizes the rights and interests of small-scale fishing communities, provides mechanisms for their participation in fisheries management decisions, and ensures that they share equitably in the benefits of sustainable fisheries management while also bearing their fair share of the costs of conservation measures.

4.3 Offshore Petroleum Governance: Resources, Revenue, and Environmental Risk

The governance of offshore petroleum resources represents one of the most strategically significant and legally complex aspects of Bangladesh's maritime governance agenda. Bangladesh's exclusive economic zone in the Bay of Bengal contains significant undiscovered hydrocarbon resources, and Petrobangla's announcement of the Bangladesh 2024 Offshore Bid Round signaled the government's intention to accelerate the development of these resources. The governance of offshore petroleum, however, presents formidable challenges that require a comprehensive and sophisticated legal framework.

The current legal framework for offshore petroleum governance in Bangladesh is inadequate in several important respects. The Bangladesh Oil, Gas and Mineral Corporation Ordinance of 1985, as amended, provides the basic statutory framework for petroleum resource management,

but it was drafted before Bangladesh had resolved its maritime boundary disputes and before the full implications of UNCLOS for offshore petroleum governance were clear. The Production Sharing Contracts that govern relationships between Petrobangla and international oil companies have been developed on a contract-by-contract basis rather than pursuant to a comprehensive and transparent legislative framework, creating inconsistencies and governance gaps.

The Norwegian model of petroleum governance, which has been widely studied as the most successful example of converting offshore hydrocarbon wealth into sustainable national development, rests on a comprehensive legislative framework that includes: a clear state ownership claim to petroleum resources; a robust licensing system that ensures the state captures a fair share of the economic rents from petroleum production; a transparent revenue management system; strong environmental protection requirements; and a long-term investment fund that converts current petroleum revenues into a sustainable source of national wealth. Bangladesh's petroleum governance framework falls short of the Norwegian standard in virtually every one of these dimensions.

The revenue management dimension of petroleum governance is particularly important for Bangladesh. The experience of many developing petroleum-producing states, including several in sub-Saharan Africa, demonstrates that resource wealth does not automatically translate into developmental benefits, and may in fact exacerbate inequality and governance deficiencies through the resource curse dynamic. Establishing a robust framework for managing petroleum revenues, including mechanisms for ensuring transparency, preventing corruption, and dedicating revenues to sustainable developmental purposes, is therefore a critical element of offshore petroleum governance reform.

The environmental governance of offshore petroleum activities is equally important. The Deepwater Horizon disaster in the Gulf of Mexico in 2010 demonstrated with devastating clarity the environmental risks associated with deep-sea drilling operations. Bangladesh's Bay of Bengal waters are home to internationally significant marine biodiversity, including threatened species of sea turtles, dolphins, whales, and migratory birds, as well as the mangrove ecosystems of the Sundarbans, which are among the most ecologically important coastal habitats in the world. A major offshore oil spill in the Bay of Bengal would have catastrophic consequences for these ecosystems and for the millions of people who depend on them.

Bangladesh's offshore petroleum governance framework must therefore establish rigorous environmental protection standards, mandatory environmental impact assessment requirements, robust emergency response capabilities, and clear liability rules for environmental damage caused by petroleum operations. These requirements must be integrated into the licensing framework in a manner that creates genuine incentives for operators to invest in safety and environmental protection rather than merely fulfilling minimum legal requirements.

The governance of offshore petroleum also raises important questions about intergenerational equity and the rights of future generations. Bangladesh is not a historically large greenhouse gas emitter, and its per capita emissions remain far below the global average. Nevertheless, the development of new offshore petroleum resources contributes to global greenhouse gas emissions and therefore to the climate change that threatens Bangladesh's coastal communities.

This creates a difficult tension between Bangladesh's legitimate interest in developing its natural resources for economic development and its broader interest as a climate-vulnerable nation in preventing the global emissions that cause climate change.

This tension cannot be resolved by simple prescription, but it must be honestly confronted in Bangladesh's energy and maritime policy. A comprehensive blue economy strategy that is genuinely committed to long-term sustainability must include a credible pathway toward the decarbonization of Bangladesh's energy system, including the offshore energy sector. The development of offshore renewable energy, particularly offshore wind power in the Bay of Bengal, offers a potential pathway that could support both Bangladesh's energy development ambitions and its climate commitments.

CHAPTER FIVE: MARITIME SECURITY, PIRACY, AND TRANSNATIONAL CRIME IN THE BAY OF BENGAL

5.1 The Evolving Landscape of Maritime Security Threats

Maritime security is a multidimensional concept that encompasses a range of threats to the safety and security of persons, vessels, cargo, and maritime infrastructure, as well as to the sovereignty and jurisdictional rights of coastal states in their maritime zones. The maritime security challenges facing Bangladesh in the Bay of Bengal have evolved significantly in recent decades and continue to evolve in response to changing political, economic, and technological conditions.

The most traditional maritime security concerns, piracy and armed robbery at sea, remain relevant in the Bay of Bengal and its adjacent waters. While the Bay of Bengal has not experienced the dramatic surge in piracy that affected the Gulf of Aden during the peak years of Somali piracy from 2007 to 2012, incidents of armed robbery against fishing vessels and small commercial craft have been documented in the Bay of Bengal, particularly in the waters around the Sundarbans and the coastal areas of Bangladesh, India, and Myanmar. The Territorial Waters and Maritime Zones (Amendment) Act of 2021 incorporated provisions on maritime piracy and armed robbery in compliance with Article 101 of UNCLOS, an important legislative improvement that has been recognized in the academic literature.

But maritime security in the contemporary context goes far beyond the traditional concern with piracy. It encompasses human trafficking by sea, which remains a significant concern in the Bay of Bengal given the desperate plight of Rohingya refugees and other migrants seeking to reach safety and opportunity by crossing maritime borders. It encompasses drug trafficking, with the Andaman Sea routes playing an increasing role in the regional narcotics trade. It encompasses illegal, unreported, and unregulated fishing, which depletes shared marine resources and undermines the livelihoods of legitimate fishers. It encompasses terrorism and sabotage directed at maritime infrastructure, including ports, offshore platforms, and undersea cables. And it encompasses the grey zone activities of state actors who use maritime means to assert contested jurisdictional claims or to harass the vessels and activities of other states.

The security dimension most directly relevant to Bangladesh's recent geopolitical experience concerns the protection of its maritime boundaries and the assertion of sovereign rights in its exclusive economic zone. Bangladesh won its maritime boundary disputes with Myanmar and India through international adjudication, but the practical reality of asserting and enforcing these boundaries in a region characterized by competing interests, limited enforcement resources, and complex maritime traffic is more challenging than the legal victories might suggest. The enforcement of Bangladesh's fisheries jurisdiction in its exclusive economic zone remains inadequate, with significant illegal, unreported, and unregulated fishing occurring in Bangladeshi waters by both domestic and foreign vessels.

5.2 The Legal Framework for Maritime Security Governance

Bangladesh's legal framework for maritime security governance has been improved in recent years but remains in need of further reform to address the full range of contemporary maritime security threats. The Bangladesh Coast Guard Act of 1994, as amended, provides the statutory basis for the Bangladesh Coast Guard, which is the primary maritime law enforcement agency responsible for patrolling Bangladesh's maritime zones and enforcing applicable laws. The Coast Guard's mandate encompasses anti-piracy, fisheries protection, search and rescue, counter-narcotics, and other maritime law enforcement functions.

The institutional challenges facing the Bangladesh Coast Guard are significant. The agency has grown substantially since its establishment, but it remains under-resourced relative to the scale of the maritime jurisdiction it is tasked with enforcing. The exclusive economic zone of Bangladesh extends to approximately 166,000 square kilometers, an area that is far larger than the land territory of Bangladesh itself and that the Coast Guard's current fleet and personnel cannot effectively patrol. The result is significant under-enforcement of Bangladesh's maritime laws, creating a governance gap that undermines the value of the sovereign rights conferred by UNCLOS.

Improving the effectiveness of maritime security governance in Bangladesh requires both legislative reform and institutional strengthening. On the legislative side, a comprehensive Maritime Security Act that consolidates and modernizes the legal framework for maritime security, clearly defining the powers and responsibilities of different enforcement agencies and establishing clear procedures for the apprehension, detention, and prosecution of maritime security offenders, would significantly improve the coherence and effectiveness of the legal framework. On the institutional side, substantial investment in patrol vessels, surveillance technology, communications equipment, and trained personnel is necessary to bring enforcement capacity into reasonable relationship with enforcement responsibility.

Regional cooperation is also an essential element of effective maritime security governance. Many maritime security threats, including human trafficking, drug trafficking, illegal fishing, and piracy, are inherently transnational and cannot be effectively addressed by any single state acting alone. Bangladesh participates in several regional maritime security cooperation mechanisms, including the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation and the Indian Ocean Rim Association. The Bangladesh-India-Myanmar joint patrols and surveillance efforts coordinated through the Bay of Bengal Large Marine Ecosystem

Project represent a positive example of regional cooperation in maritime enforcement. But the potential for regional maritime security cooperation in the Bay of Bengal remains significantly underdeveloped relative to the scale of the shared maritime security challenges.

5.3 The IUU Fishing Problem: A Case Study in Maritime Governance Failure

Illegal, unreported, and unregulated fishing in Bangladesh's waters and adjacent high seas represents perhaps the most economically significant and ecologically damaging form of maritime governance failure that Bangladesh currently faces. IUU fishing threatens the sustainability of fisheries that are fundamental to the food security and livelihoods of millions of Bangladeshis, undermines the effectiveness of Bangladesh's fisheries management efforts, and contributes to the progressive depletion of shared marine resources in the Bay of Bengal.

The legal framework for combating IUU fishing in Bangladesh has improved in recent years, with the Marine Fisheries Act of 2020 providing an improved legal basis for fisheries enforcement. Bangladesh has also developed monitoring, control, and surveillance systems for its marine fisheries, including vessel monitoring systems that track the location of licensed fishing vessels. Participation in the BOBLME Project has supported the development of joint surveillance and enforcement mechanisms with India and Myanmar.

But significant challenges remain. The legal framework for addressing IUU fishing by foreign vessels in Bangladesh's exclusive economic zone needs strengthening, particularly with respect to the powers of enforcement agencies to board, inspect, and detain foreign vessels. The mechanisms for international cooperation in IUU fishing enforcement, including port state control measures and information sharing with flag states, need development. The penalties for IUU fishing offenses need to be calibrated to create genuine deterrence rather than merely representing a business cost for operators.

The IUU fishing problem in Bangladesh illustrates a broader challenge of maritime governance: the gap between formal legal entitlements and effective governance capacity. Bangladesh has the legal right, under UNCLOS, to exercise exclusive sovereignty over the fisheries resources of its exclusive economic zone. But exercising that sovereign right effectively requires enforcement capacity that Bangladesh currently lacks. Closing this gap between formal legal entitlement and effective governance capacity is a central challenge of Bangladesh's maritime governance reform agenda.

CHAPTER SIX: CLIMATE CHANGE, SEA-LEVEL RISE, AND THE EXISTENTIAL DIMENSIONS OF MARITIME LAW

6.1 Bangladesh as a Climate Frontline State

Bangladesh occupies a unique and particularly exposed position in the global landscape of climate change vulnerability. The country sits at the confluence of three major river systems, the Ganges, the Brahmaputra, and the Meghna, which drain a vast Himalayan watershed into the

Bay of Bengal through the world's largest river delta. This geographic reality, which has made the Bengal delta one of the most fertile and densely populated places on earth throughout human history, has also made it extraordinarily vulnerable to the hydrological and meteorological changes associated with climate change.

The vulnerabilities are multiple and compounding. Sea-level rise directly threatens Bangladesh's low-lying coastal areas, which are home to millions of people and contain some of the country's most productive agricultural and fisheries zones. The Sundarbans, the world's largest mangrove forest shared between Bangladesh and India, is under severe pressure from a combination of sea-level rise, soil salinity intrusion, and reduced freshwater flows from upstream dams and diversions. Cyclonic storms, which have historically been among the most deadly natural disasters affecting Bangladesh, are expected to intensify in frequency and severity as ocean temperatures rise. And the melting of Himalayan glaciers, while initially increasing river flows, is expected to reduce freshwater availability in the Ganges-Brahmaputra-Meghna basin over the longer term.

These climatic threats have direct implications for Bangladesh's maritime legal interests. Sea-level rise raises the prospect of shifts in Bangladesh's coastal baselines, which are the reference lines from which the breadth of maritime zones is measured under UNCLOS. If Bangladesh's coastline retreats inland as a result of sea-level rise and erosion, the baselines from which its maritime zones are measured might move landward, potentially reducing the area of Bangladesh's territorial sea, contiguous zone, and exclusive economic zone. The loss of the South Talpatty island, which appeared in the Bay of Bengal in the 1970s and has since largely been submerged, has been cited as an early example of the climate-related changes that may affect Bangladesh's maritime geography.

6.2 Baseline Stability and International Law

The question of whether baselines and maritime zones should shift as coastlines change due to sea-level rise is one of the most contested and consequential issues in contemporary international maritime law. The traditional rule, reflected in UNCLOS Articles 5 and 7, is that baselines are determined by reference to the actual coastline of a state at a particular time. If the coastline changes, the baselines change accordingly, and the maritime zones measured from those baselines change with them.

The application of this traditional rule to the context of climate-induced sea-level rise and coastal erosion would have devastating consequences for low-lying coastal states and small island developing states. States whose land territories become fully or partially submerged as a result of sea-level rise could lose their rights to maritime zones entirely, or see those zones significantly reduced, precisely at the time when the impacts of climate change make those zones most important for the survival and development of their populations.

The international legal response to this challenge has been evolving. Several small island developing states, including Tuvalu and Fiji, have adopted domestic legislation declaring that their baselines and maritime zones shall remain fixed regardless of physical changes to their coastlines caused by sea-level rise. The International Law Commission has addressed the

question of the continuity of statehood for states threatened by sea-level rise, suggesting that the loss of land territory to sea-level rise does not necessarily extinguish statehood. And there is a growing body of academic opinion supporting the interpretation of UNCLOS in a manner that allows states to fix their baselines at historically recorded positions, preventing involuntary loss of maritime entitlements due to sea-level rise.

For Bangladesh, the question of baseline stability is not merely an academic question about a future hypothetical scenario. Bangladesh has already experienced significant coastal erosion and submersion of small islands and chars in the Bay of Bengal. The prospect of more extensive coastal retreat as sea-level rise accelerates over the coming decades is a genuine and serious concern. Bangladesh needs to actively engage with the emerging international discussions on baseline stability, advocate for interpretations and codification of international law that protect its maritime entitlements, and develop domestic legislative frameworks that establish its positions on these questions.

6.3 The ITLOS Advisory Opinion and Bangladesh's Climate Obligations

The landmark ITLOS Advisory Opinion of May 21, 2024 has important implications for Bangladesh both as a victim of climate change and as a state with its own greenhouse gas emissions and climate obligations. The Advisory Opinion found that states have stringent due diligence obligations under UNCLOS to prevent, reduce, and control marine pollution from anthropogenic greenhouse gas emissions, and that these obligations apply to all state parties regardless of their level of development or historical responsibility for emissions.

For Bangladesh, the Advisory Opinion is double-edged. On the one hand, it supports Bangladesh's position as a climate-vulnerable nation seeking legal accountability from major emitting states for the harm caused to its marine environment. On the other hand, it imposes obligations on Bangladesh itself to take measures to reduce its own greenhouse gas emissions in compliance with its UNCLOS obligations. Bangladesh's own emissions, while small in global terms, are growing as the country industrializes, and its energy sector remains heavily dependent on fossil fuels including coal and natural gas.

The philosophical complexity of Bangladesh's position in the climate change debate reflects a broader tension in international environmental law between the principles of common but differentiated responsibilities and the UNCLOS framework of universal state obligations. The common but differentiated responsibilities principle, which was the foundation of the climate change legal framework from the Rio Declaration through the Kyoto Protocol, holds that states have differential obligations based on their historical contributions to environmental problems and their current capacities. The UNCLOS framework, by contrast, imposes substantially similar obligations on all state parties, although some provisions acknowledge the special circumstances of developing states.

The Advisory Opinion navigated this tension by acknowledging the principle of common but differentiated responsibilities but declining to allow it to reduce the stringency of the due diligence obligation under UNCLOS. This approach has been both praised and criticized. Those who praise it argue that the due diligence standard already incorporates flexibility because what

constitutes adequate diligence will be assessed in light of a state's capabilities and resources. Those who criticize it argue that the Advisory Opinion underestimates the importance of differentiated responsibilities and may impose unjust burdens on developing states for a problem they did not primarily cause.

For Bangladesh's legal strategy, the most important practical implication of the Advisory Opinion is that it creates an additional legal avenue for holding major emitting states accountable for the damage their emissions cause to Bangladesh's marine environment. Bangladesh could potentially bring a claim before ITLOS or an Annex VII arbitral tribunal under UNCLOS, arguing that major emitting states have violated their obligations under Part XII of UNCLOS by failing to take adequate measures to control greenhouse gas emissions that are damaging Bangladesh's marine environment. While such a claim would face significant legal and political obstacles, the Advisory Opinion has significantly strengthened its jurisprudential foundations.

CHAPTER SEVEN: THE CONTINENTAL SHELF, DEEP-SEA GOVERNANCE, AND THE COMMON HERITAGE

7.1 Bangladesh's Extended Continental Shelf and the CLCS

Bangladesh's continental shelf extends beyond 200 nautical miles from its baselines in parts of the Bay of Bengal, giving it potential entitlements to an extended continental shelf under Article 76 of UNCLOS. The outer limits of the continental shelf beyond 200 nautical miles must be established on the basis of recommendations from the Commission on the Limits of the Continental Shelf. Bangladesh submitted its continental shelf submission to the CLCS in 2011, meeting the ten-year deadline from its 2001 ratification of UNCLOS.

The CLCS process is technically complex, requiring extensive scientific data on the bathymetry, sediment thickness, and geological structure of the deep ocean floor. Bangladesh's submission was based on scientific surveys conducted with technical assistance from international partners, including surveys of the deep-sea fan deposits of the Bay of Bengal, which contain some of the world's largest deep-water sediment accumulations from the erosion of the Himalayas over millions of years.

The outer continental shelf of Bangladesh in the Bay of Bengal contains potentially significant resources, including hydrocarbon accumulations and, potentially, polymetallic nodules and other deep-sea mineral resources. However, the governance and exploitation of these resources is complicated by the overlapping claims of India and Myanmar in the Bay of Bengal, the unresolved question of the exact outer limits of Bangladesh's continental shelf as determined by the CLCS, and the complex regulatory framework governing deep-sea resource exploitation.

The deep-sea fan deposits of the Bay of Bengal also contain methane hydrates, frozen methane compounds that are found in the deep-sea sediments and represent a potentially enormous but technically challenging energy resource. The governance of methane hydrate exploitation, if it becomes technically and economically feasible, raises complex questions about the allocation of

resources between Bangladesh's extended continental shelf and the Area governed by the International Seabed Authority, about the environmental risks of deep-sea methane extraction, and about the contribution of methane hydrate exploitation to global greenhouse gas emissions.

7.2 Deep-Sea Mining and the Common Heritage Principle

The governance of deep-sea mining in the international seabed Area is one of the most contested and philosophically significant frontiers of contemporary international law. The Area, which consists of the seabed and ocean floor and subsoil beyond the limits of national jurisdiction, was declared the common heritage of mankind in UNCLOS and placed under the governance of the International Seabed Authority. The common heritage principle was intended to ensure that the resources of the Area would be exploited for the benefit of all humanity, with particular attention to the needs of developing states.

In practice, the implementation of the common heritage principle has been deeply contested. The 1994 Implementation Agreement, adopted under pressure from industrialized states, significantly modified the Part XI framework in ways that many developing states and scholars regard as having undermined the common heritage principle by introducing more market-oriented approaches to ISA governance. The enterprise, the ISA's own operational arm that was intended to conduct mining operations on behalf of all humanity, has remained largely inactive. The technology transfer obligations of contractors have been diluted in practice. The benefit-sharing mechanisms have been less generous than developing states had hoped.

The ISA is currently in the process of developing the Mining Code, a comprehensive regulatory framework for commercial deep-sea mining operations. This process has been contentious, with significant debates about environmental protection standards, benefit-sharing arrangements, the rights of developing states, and the pace of development. Some states and civil society organizations have called for a moratorium on deep-sea mining pending a more complete scientific understanding of the impacts of mining on deep-sea ecosystems. Others, including some developing states that have secured exploration licenses in the Area, are eager to move forward with the development of deep-sea mineral resources.

Bangladesh's position in the deep-sea mining governance debate reflects the complexity of its interests. As a developing state with limited financial and technical resources, Bangladesh has an interest in ensuring that the ISA's governance framework provides genuine benefits for developing states, including through technology transfer and capacity-building. Bangladesh also has an interest in strong environmental protection standards for deep-sea mining, given the potential for deep-sea mining operations to disrupt ecosystem services that support the productivity of marine environments including those in the Bay of Bengal. At the same time, Bangladesh is not among the states that have secured exploration licenses in the Area, and has relatively limited direct financial stake in the pace of development.

What Bangladesh can and should do is engage actively in the ISA governance process, advocating for a mining code that genuinely reflects the common heritage principle, that provides adequate environmental protection, and that ensures a fair distribution of benefits to developing states. Bangladesh's participation in ISA deliberations should be informed by a

coherent national policy on deep-sea governance that reflects both its developmental interests and its environmental commitments.

7.3 Marine Genetic Resources and the BBNJ Framework

The provisions of the BBNJ Agreement on marine genetic resources and the sharing of benefits from their use represent a potentially significant development for Bangladesh. Marine genetic resources, meaning the biological material from marine organisms that has or may have actual or potential value, are found in abundance in the world's oceans, including in the high seas of the Bay of Bengal beyond Bangladesh's exclusive economic zone. These resources have increasing commercial value in biotechnology, pharmaceuticals, cosmetics, and other industries.

Prior to the BBNJ Agreement, the governance of marine genetic resources from areas beyond national jurisdiction was largely unregulated, creating what scholars described as a race to the bottom in which technologically advanced states and commercial entities from wealthy countries collected and commercialized marine genetic resources without any obligation to share the benefits with developing states or with humanity as a whole. The BBNJ Agreement's provisions on marine genetic resources, which draw on the common heritage principle and the access and benefit-sharing framework of the Nagoya Protocol, represent an important effort to address this governance gap.

For Bangladesh, the benefit-sharing provisions of the BBNJ Agreement could provide a source of financial and technological resources to support the development of Bangladesh's marine biotechnology sector and its scientific capacity for marine research. Bangladesh's waters and adjacent high seas contain significant marine biodiversity that is of potential biotechnological value. Developing the capacity to collect, analyze, and potentially commercialize marine genetic resources could be a significant element of Bangladesh's blue economy strategy.

The BBNJ Agreement's provisions on capacity-building and technology transfer are also directly relevant to Bangladesh's scientific and institutional development needs. The agreement establishes a clearing-house mechanism for sharing information and knowledge about marine genetic resources and commits parties to provide capacity-building support to developing states to enable them to participate fully in the governance and benefit-sharing framework. Bangladesh should engage actively with these mechanisms and should develop a domestic policy and legislative framework for governing the collection and use of marine genetic resources in its own waters.

CHAPTER EIGHT: REGIONAL COOPERATION, GEOPOLITICS, AND THE BAY OF BENGAL ORDER

8.1 The Geopolitics of the Bay of Bengal

The Bay of Bengal is emerging as one of the most strategically significant maritime spaces in the twenty-first century. Bordered by Bangladesh, India, Myanmar, Thailand, Sri Lanka, and with

indirect strategic interests from China and the major naval powers, the Bay of Bengal sits at the confluence of the Indian Ocean and the South China Sea maritime orders, connecting the rapidly growing economies of South and Southeast Asia and serving as the primary maritime corridor for much of the world's trade in energy, manufactured goods, and raw materials.

The geopolitics of the Bay of Bengal are complex and evolving. India, with the largest naval presence in the region, has historically sought to maintain strategic primacy in the Bay of Bengal and regards it as within its sphere of influence. China has been expanding its maritime presence and strategic relationships in the region, including through its Belt and Road Initiative infrastructure investments in Myanmar and Sri Lanka. The United States, through its Indo-Pacific strategy, has sought to maintain its naval presence and strategic partnerships in the region as part of its broader effort to manage China's rise. Japan, Australia, and other Indo-Pacific partners have also sought to deepen their engagement with Bay of Bengal states.

For Bangladesh, navigating these great power dynamics requires a careful and skillful foreign policy. Bangladesh has important relationships with all of the major powers engaged in the region, including India, China, and the United States. The 2009 establishment of Bangladesh's military government and subsequent return to democratic governance under Sheikh Hasina, and then the political transition of 2024 that brought an interim government to power, have created some uncertainty about Bangladesh's foreign policy orientation. But Bangladesh's fundamental strategic interest lies in maintaining good relations with all regional powers while preserving its sovereignty and autonomy, developing its maritime resources, and participating constructively in regional maritime governance mechanisms.

The Bay of Bengal has long lacked the robust multilateral governance institutions that exist in other maritime regions. The Indian Ocean Rim Association, while providing a useful forum for dialogue, has not developed strong operational mechanisms for maritime governance. BIMSTEC, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, has made some progress on maritime security cooperation but remains institutionally underdeveloped relative to the scale of the governance challenges in the region. The BOBLME Project, which Bangladesh participates in along with India and Myanmar, provides a useful model for functional cooperation on fisheries and marine environmental management.

Bangladesh should advocate actively for the development of stronger multilateral governance mechanisms for the Bay of Bengal, including a more institutionalized regional fisheries management organization, a regional maritime security cooperation framework, and a regional arrangement for the protection of the marine environment of the Bay of Bengal. These institutional developments would serve Bangladesh's interests by providing multilateral frameworks within which Bangladesh can participate on terms of formal equality with its larger and more powerful neighbors.

8.2 The Bangladesh-India Maritime Relationship

The maritime relationship between Bangladesh and India is one of the most important dimensions of Bangladesh's maritime governance context. The two countries share extensive

maritime boundaries in the Bay of Bengal following the 2014 PCA Award in Bangladesh v. India, and they have extensive shared interests in the management of shared fisheries resources, the prevention of maritime crime, and the protection of the marine environment.

Despite these shared interests, the maritime relationship between Bangladesh and India has been marked by significant tensions and asymmetries. India is vastly larger and more powerful than Bangladesh in every dimension, including military capacity, economic resources, and diplomatic influence. The historical context of Bangladesh's creation with Indian military assistance in 1971, and the subsequent complex history of Bangladesh-India relations, shapes the political environment within which maritime cooperation must be pursued.

The management of shared fisheries resources in the Bay of Bengal is one area where Bangladesh-India cooperation could yield significant mutual benefits but has been hampered by political sensitivities and competing interests. Fish stocks do not respect maritime boundaries, and the sustainable management of shared stocks requires coordinated management approaches between the states that share them. However, the asymmetry between the two countries' fisheries sectors and the political sensitivity of maritime boundary enforcement have made it difficult to develop effective joint management mechanisms.

The migration of Rohingya refugees by sea, which has affected both Bangladesh and India's maritime zones, represents another area of shared maritime concern that requires cooperative governance. The maritime routes used by people smugglers to transport Rohingya refugees through the Bay of Bengal create maritime security challenges that neither country can effectively address alone. Developing a cooperative framework for managing this dimension of the Rohingya crisis would serve both countries' humanitarian and security interests.

Bangladesh's relationship with India in the maritime domain also has an important trade and connectivity dimension. India's northeastern states, which are landlocked and depend on narrow corridors for connectivity to the rest of India, have significant potential interest in developing maritime connectivity through Bangladesh's ports and waterways. The development of Chittagong and Mongla ports as regional connectivity hubs, and the expansion of the India-Bangladesh Protocol on Inland Water Transit and Trade, could create economic opportunities that benefit both countries.

8.3 The Bangladesh-Myanmar Maritime Dimension

The maritime boundary between Bangladesh and Myanmar, established by the 2012 ITLOS Judgment in Bangladesh v. Myanmar, resolved the legal question of where the boundary lies but did not automatically resolve all the practical governance challenges in the adjacent maritime areas. The maritime boundary runs through waters that are used by fishers and traders from both countries, and the management of these shared spaces requires ongoing cooperation between Bangladesh and Myanmar.

The political situation in Myanmar following the military coup of February 2021 has significantly complicated Bangladesh's relations with its eastern neighbor. The Myanmar military government has faced international sanctions and isolation, creating difficulties for

formal bilateral cooperation on maritime issues. The ongoing conflict in Myanmar and the continued displacement of Rohingya populations also create instability in the border areas and in the shared maritime space.

Despite these political challenges, Bangladesh and Myanmar have shared interests in the management of fisheries resources in their adjacent maritime zones and in the prevention of maritime crime in the area. Finding mechanisms for functional cooperation on these issues, even in the context of broader political difficulties, is an important challenge for Bangladesh's maritime diplomacy.

The question of the Rohingya population is directly relevant to the maritime dimension of Bangladesh-Myanmar relations. The maritime routes through which Rohingya refugees have sought to flee Myanmar and reach safety in Bangladesh, Malaysia, and other destination states have been a source of significant maritime security concern, with multiple tragedies involving boats carrying Rohingya refugees capsizing in the Bay of Bengal with the loss of many lives. The resolution of the Rohingya crisis, which requires a political settlement in Myanmar that creates conditions for the safe and voluntary return of Rohingya refugees, is therefore a prerequisite for the normalization of the Bangladesh-Myanmar maritime relationship.

CHAPTER NINE: INSTITUTIONAL ARCHITECTURE FOR MARITIME GOVERNANCE IN BANGLADESH

9.1 The Institutional Landscape: An Analysis

The governance of Bangladesh's maritime zones is distributed across a complex and fragmented institutional landscape that impairs the coherence, effectiveness, and accountability of maritime governance. Understanding this institutional landscape and identifying the reforms needed to improve it is a central task of this analysis.

The primary institutions with significant roles in Bangladesh's maritime governance include the Ministry of Shipping, which has responsibility for merchant shipping, port administration, and maritime commerce; the Ministry of Foreign Affairs, which manages Bangladesh's international maritime relations, including its participation in UNCLOS institutions and bilateral maritime negotiations; the Ministry of Fisheries and Livestock, which is responsible for fisheries management; the Ministry of Environment, Forest and Climate Change, which is responsible for marine environmental protection; the Bangladesh Navy, which has operational responsibility for naval defense and contributes to maritime security enforcement; the Bangladesh Coast Guard, which is the primary maritime law enforcement agency; the Bangladesh Port Authority, which administers major ports; and various other agencies with specific maritime governance functions.

This institutional fragmentation creates multiple coordination challenges. Policies adopted by one ministry may be inconsistent with or undermine policies adopted by another. Jurisdictional overlaps between agencies create conflicts and gaps. The absence of a dedicated maritime ministry with comprehensive responsibility for maritime governance means that no single

institution has both the authority and the incentive to take a strategic, long-term view of Bangladesh's maritime interests.

The absence of comprehensive maritime planning is a related institutional deficiency. Bangladesh has adopted a Blue Economy Master Plan and various sectoral plans for maritime industries, but these planning instruments are not integrated into a comprehensive maritime governance strategy that aligns legal frameworks, institutional responsibilities, enforcement capabilities, and international engagement in a coherent manner. The development of such a comprehensive maritime governance strategy requires both political leadership at the highest level and institutional arrangements that provide the analytical capacity and coordinative authority to develop and implement it.

9.2 Toward a National Maritime Authority

The most significant institutional reform that Bangladesh needs to improve the effectiveness of its maritime governance is the establishment of a National Maritime Authority with comprehensive responsibility for coordinating maritime governance across different sectors and agencies. This reform has been recommended by various maritime law scholars and policy analysts, and it reflects the approach taken by many other maritime states that have recognized the limitations of fragmented, sector-by-sector approaches to maritime governance.

The National Maritime Authority should be established by a comprehensive Maritime Authority Act that clearly defines its mandate, powers, and relationship to other government agencies. The Authority should have responsibility for developing and implementing a comprehensive national maritime strategy; coordinating the activities of different agencies with maritime governance responsibilities; developing and updating maritime legislation; managing Bangladesh's participation in international maritime organizations and conventions; and promoting the development of Bangladesh's maritime industries and blue economy.

The Authority should report to a senior minister and should have access to the resources, technical expertise, and political backing necessary to fulfill its mandate effectively. It should include representation from all relevant ministries and agencies, ensuring that the perspectives and interests of different sectors are integrated into maritime governance decisions. And it should have mechanisms for engaging with stakeholders from civil society, including fishing communities, maritime industry associations, environmental organizations, and academic institutions.

The establishment of a National Maritime Authority does not require the elimination of existing maritime governance agencies. The Coast Guard, the Navy, the Department of Fisheries, and other agencies would continue to perform their operational functions. But a National Maritime Authority would provide the strategic coordination, policy coherence, and political visibility that maritime governance in Bangladesh currently lacks.

9.3 Judicial Capacity and Maritime Disputes

The effective governance of Bangladesh's maritime zones requires not only strong executive capacity but also an effective judicial framework for resolving maritime disputes. Bangladesh currently lacks a specialized maritime court, and maritime disputes are heard by courts of general jurisdiction that often lack the technical expertise and familiarity with international maritime law necessary for effective adjudication.

The establishment of an Admiralty Division within the High Court Division of the Supreme Court of Bangladesh, with jurisdiction over maritime disputes and with judges who have specialized training in international and domestic maritime law, would significantly improve Bangladesh's capacity to adjudicate maritime disputes effectively. Such a specialized division would also contribute to the development of a body of Bangladeshi maritime jurisprudence that could interact with and contribute to the development of international maritime law.

Bangladesh's courts have jurisdiction, under domestic law, over a wide range of maritime matters, including shipping disputes, fisheries offenses, marine environmental violations, and maritime labor disputes. But the effective exercise of this jurisdiction requires judges who understand the technical dimensions of maritime cases and who are familiar with the relevant international conventions and comparative jurisprudence. Investment in the judicial education and training necessary to develop this expertise is an important element of the maritime governance reform agenda.

The relationship between Bangladesh's domestic courts and the international dispute settlement mechanisms established by UNCLOS is also an important dimension of maritime judicial governance. Bangladesh has used UNCLOS dispute settlement mechanisms effectively in its boundary disputes with Myanmar and India, demonstrating a sophisticated engagement with international maritime adjudication. But the relationship between international adjudicative decisions and Bangladesh's domestic legal framework needs to be clarified and strengthened to ensure that international rulings are effectively implemented and that Bangladesh's domestic courts are guided by international maritime law principles.

CHAPTER TEN: ENVIRONMENTAL LAW, OCEAN HEALTH, AND THE MARINE ENVIRONMENT OF BANGLADESH

10.1 The State of Bangladesh's Marine Environment

The marine environment of Bangladesh is under severe and escalating pressure from a combination of anthropogenic stresses. These stresses include marine pollution from land-based sources, including domestic wastewater, agricultural runoff, and industrial effluents discharged into the river systems that drain into the Bay of Bengal; marine pollution from shipping operations, including oil spills, ballast water discharges, and antifouling paint runoff; overexploitation of fisheries resources; physical degradation of coastal and marine habitats including mangroves, coral reefs, and seagrass beds; and the overarching threat of climate change.

The Sundarbans mangrove ecosystem, which straddles the Bangladesh-India border and is designated as both a UNESCO World Heritage Site and a Ramsar Wetland of International Importance, is one of the most ecologically important and most severely threatened components of Bangladesh's maritime environment. The Sundarbans provide critical habitat for the Bengal tiger, the Irrawaddy dolphin, five species of sea turtles, and many other threatened species. They also provide critical ecosystem services for millions of coastal Bangladeshis, including coastal protection from storm surges and cyclones, fisheries nursery habitat, timber and non-timber forest products, and carbon sequestration.

The threats to the Sundarbans are multiple and compounding. Sea-level rise and increased salinity intrusion are changing the ecological composition of the mangrove forest, favoring salt-tolerant species at the expense of ecologically diverse communities. Sedimentation patterns have changed as a result of upstream dam construction, reducing the sediment supply that has historically allowed the Sundarbans to grow and migrate in response to sea-level rise. Pollution from shipping in the Sundarbans waterways, including the controversial decision to allow tankers carrying heavy fuel oil to transit through the Sundarbans, poses ongoing risks of catastrophic pollution events.

The marine biodiversity of the Bay of Bengal beyond the Sundarbans is also under severe pressure. Fish populations have been significantly depleted by decades of overexploitation. Coral reef communities in the Bay of Bengal, while less extensive than those in the Coral Triangle to the east, have experienced significant bleaching and degradation as a result of elevated sea temperatures. The populations of large marine mammals, including dolphins, whales, and dugongs, have been reduced by bycatch, vessel strikes, and habitat degradation.

10.2 The Legal Framework for Marine Environmental Protection

Bangladesh's legal framework for the protection of the marine environment is fragmentary and inadequate relative to the scale of the environmental challenges. The Environment Conservation Act of 1995, as amended, provides a general framework for environmental protection that applies to the marine environment, but its provisions were not designed specifically for maritime contexts and their application in the marine domain has been inconsistent and often ineffective.

UNCLOS Part XII, which Bangladesh is bound to implement as a state party, imposes obligations to protect and preserve the marine environment, to prevent, reduce, and control marine pollution from various sources, and to cooperate internationally in the protection of the marine environment. The implementation of these obligations in Bangladesh's domestic legal framework is incomplete and inadequate.

The Chittagong Port Authority Act and related port legislation provide some provisions on the prevention of marine pollution from port operations and shipping, but these provisions do not constitute a comprehensive framework for controlling pollution from maritime sources. Bangladesh has ratified several important international conventions on marine pollution from shipping, including MARPOL and the London Protocol, but the implementation of these conventions in Bangladesh's domestic law and administrative practice is incomplete.

The most significant recent development in Bangladesh's marine environmental legislation is the incorporation of provisions on maritime piracy and armed robbery in the 2021 Amendment to the Territorial Waters and Maritime Zones Act, in compliance with UNCLOS. While this development is positive, it addresses a security dimension of maritime governance rather than the environmental dimension. The enactment of a comprehensive Marine Environment Protection Act, incorporating the full range of UNCLOS obligations on marine environmental protection and drawing on comparative experience from other maritime states, is an urgent priority for Bangladesh's maritime legislative reform.

The protection of the Sundarbans specifically requires a more robust and integrated legal framework that goes beyond the current patchwork of overlapping and sometimes conflicting regulations. The establishment of a comprehensive Sundarbans Maritime Zone, with special restrictions on shipping, fishing, and industrial activities in and around this critical ecosystem, and with dedicated management institutions and adequate enforcement resources, would be an important step toward ensuring the long-term protection of this irreplaceable natural heritage.

10.3 The Marine Plastic Pollution Crisis and International Legal Responses

The global marine plastic pollution crisis has attracted enormous public and scientific attention in recent years and has generated significant international political momentum toward the development of new legal frameworks. Bangladesh, as a densely populated coastal state with a large and growing plastics sector and significant river systems that carry substantial plastic pollution to the sea, is both a contributor to and a victim of the global marine plastic pollution problem.

The Bangladesh government has enacted a ban on the manufacture, use, and sale of thin polythene bags, a source of significant plastic pollution in Bangladesh's waterways and coastal environments. But enforcement of this ban has been inconsistent, and the broader challenge of managing plastic waste in a country with limited solid waste management infrastructure remains largely unaddressed.

The international community is currently negotiating a global plastics treaty under the auspices of the United Nations Environment Programme, which could establish legally binding obligations on states to reduce plastic pollution, including marine plastic pollution. Bangladesh should engage actively in these negotiations, advocating for a strong and comprehensive treaty that addresses both land-based and marine sources of plastic pollution and that includes adequate financial and technical support for developing countries to implement their obligations.

At the national level, Bangladesh needs to develop a comprehensive plastic pollution reduction strategy that goes beyond the polythene bag ban to address the full lifecycle of plastics, from production through use to end-of-life management. This strategy should include improved solid waste collection and processing, extended producer responsibility for plastic manufacturers, regulations on microplastics in personal care products and industrial applications, and marine litter removal programs in coastal and waterway environments.

CHAPTER ELEVEN: MARITIME TRADE, SHIPPING, AND PORT GOVERNANCE

11.1 Bangladesh's Maritime Trade Infrastructure

Bangladesh's economy is deeply integrated into global trade networks, with exports of ready-made garments and other manufactured goods accounting for the majority of Bangladesh's export earnings and imports of fuel, food, and capital goods being essential to the functioning of the economy. The great majority of Bangladesh's international trade moves by sea, making maritime trade infrastructure, including ports, shipping services, and maritime logistics, foundational to Bangladesh's economic development.

The primary port for Bangladesh's international trade is Chittagong Port, which handles approximately 92 percent of Bangladesh's international trade by volume. Chittagong Port has expanded significantly over the past two decades, but it remains congested and inefficient by international standards, with longer vessel turnaround times and higher port costs than competing regional ports. The development of Mongla Port as a secondary gateway for trade from western Bangladesh and the planned construction of a deep-water port at Matarbari in the southeastern Cox's Bazar district are intended to diversify Bangladesh's port infrastructure and relieve pressure on Chittagong.

The legal framework governing Bangladesh's ports and maritime trade is largely contained in the Chittagong Port Authority Act, the Chittagong Port Trust Act, the Inland Shipping Ordinance, the Merchant Shipping Act of 2018, and various customs and trade regulations. These instruments, taken together, provide a framework for port administration and maritime commerce that has supported the growth of Bangladesh's trade but that needs significant modernization and strengthening to support the next phase of development.

The development of Chittagong as a regional transshipment hub, which successive governments have aspired to, requires not merely the physical expansion of port infrastructure but also significant improvements in the legal and regulatory framework governing port operations, customs procedures, and maritime logistics services. The relatively high costs and procedural complexity of doing business at Chittagong Port, compared to competing regional hubs like Singapore, Port Klang, or Colombo, reflect not only physical infrastructure limitations but also regulatory and institutional deficiencies that are susceptible to legal and administrative reform.

11.2 Ship Recycling and Environmental Justice

Bangladesh is one of the world's largest ship recycling nations, with the Chittagong ship-breaking yards dismantling between 15 and 20 percent of the world's retired commercial ships each year. The ship recycling industry provides employment for tens of thousands of Bangladeshis and is a significant source of recycled steel, but it has attracted intense international criticism for its environmental and labor practices.

The environmental concerns about ship recycling in Bangladesh are substantial. Ships contain large quantities of hazardous materials, including asbestos, PCBs, heavy metals, and oily wastes, which are released into the coastal environment during the ship-breaking process. The beaches at

Sitakunda near Chittagong, where most of Bangladesh's ship recycling takes place, have been severely contaminated by decades of unregulated dismantling operations. The marine environment immediately adjacent to the ship-breaking yards shows evidence of significant pollution.

The international legal framework governing ship recycling has been significantly strengthened by the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, which was adopted in 2009 and entered into force on June 26, 2025 after reaching the required threshold of ratifications. The Hong Kong Convention requires that ships proposed for recycling be surveyed, that an inventory of hazardous materials be prepared and maintained, and that ship recycling takes place only in approved and certified facilities that meet specified environmental and safety standards.

Bangladesh's engagement with the Hong Kong Convention has been ambivalent. Bangladesh recognizes the importance of improving the environmental and safety standards of its ship recycling industry, but it has also been concerned about the compliance costs of the convention and about the impact of stricter standards on the competitiveness of Bangladeshi ship recycling yards relative to competitors in other countries. The entry into force of the Hong Kong Convention on June 26, 2025 creates both obligations and opportunities for Bangladesh to upgrade its ship recycling industry to internationally recognized standards.

The ship recycling issue illustrates a broader dimension of environmental justice in Bangladesh's maritime governance context. The hazardous waste from retired ships is generated by the global shipping industry, which is concentrated in wealthy industrialized states, but the environmental costs of dismantling those ships are borne primarily by the workers and coastal communities of Bangladesh. This transfer of environmental costs from wealthy states to poor ones is a fundamental inequity that should be addressed through the development of an internationally equitable ship recycling governance framework.

CHAPTER TWELVE: INTERNATIONAL LAW THEORIES AND THEIR APPLICATION TO BANGLADESH'S MARITIME CONTEXT

12.1 Positivism, Natural Law, and the Foundations of Maritime Sovereignty

The application of international law theories to the specific context of Bangladesh's maritime governance illuminates both the theoretical foundations of existing legal arrangements and the normative standards against which those arrangements should be evaluated.

The positivist tradition in international law, associated with scholars like John Austin, Hans Kelsen, and H.L.A. Hart, provides the primary theoretical framework within which practitioners of international maritime law typically operate. For positivists, the binding force of UNCLOS derives from the fact that states have consented to it through treaty ratification, and the specific content of maritime rights and obligations is determined by interpreting the treaty text, subsequent state practice, and applicable rules of customary international law. The positivist

framework is well-suited to the technical tasks of maritime boundary delimitation, the interpretation of jurisdictional provisions, and the application of procedural rules for dispute settlement.

But the positivist framework has significant limitations when applied to the broader questions of justice, equity, and sustainability that pervade the contemporary law of the sea. The positivist's answer to the question of whether UNCLOS is a just instrument is simply that it is valid law because states have consented to it, which is not a very satisfying account for states like Bangladesh that negotiated the convention from a position of relative weakness and that sometimes experience the application of its provisions as unjust.

The natural law tradition offers a richer, if more controversial, account of the foundations of maritime law. Natural lawyers would argue that maritime rights, including the sovereign rights of coastal states and the freedom of the high seas, derive their ultimate authority from principles of natural reason and justice that transcend positive enactment. The common heritage principle, which has deep roots in natural law thinking about the common ownership of natural gifts, can be understood as an expression of natural law principles in the contemporary international legal order.

For Bangladesh, the natural law tradition provides important normative resources for articulating claims about maritime justice that go beyond the formal provisions of existing treaties. Bangladesh's claims for equitable treatment in maritime delimitation, for technology transfer to enable the development of its marine resources, and for compensation from major emitting states for climate-induced damage to its marine environment can all be grounded in natural law principles of justice and equity that, while not directly enforceable as positive international law, provide the moral foundation for legal advocacy and treaty negotiation.

12.2 Critical International Law Theory and Bangladesh's Maritime Position

Critical international law theory, including the TWAIL approach, feminist international law, and critical legal studies, provides important analytical tools for understanding the ways in which international maritime law reflects and perpetuates particular power relations and ideological commitments.

The TWAIL critique of UNCLOS argues that the convention, despite its formal commitments to equity and the common heritage of mankind, was negotiated under conditions of significant power asymmetry that favored the interests of industrialized states. The complex provisions of Part XI on the international seabed Area were significantly modified by the 1994 Implementation Agreement under pressure from the United States and other industrialized states that objected to the original provisions as too favorable to developing countries. The provisions on technology transfer, while nominally requiring contractors and sponsoring states to facilitate the transfer of marine technology to developing states, have been largely ineffective in practice.

For Bangladesh, the TWAIL critique resonates with its experience of maritime governance as a developing coastal state. Despite winning significant legal victories in its boundary disputes with Myanmar and India, Bangladesh faces structural challenges in realizing the developmental

benefits of its maritime zones that reflect deeper asymmetries in technology, capital, and institutional capacity between rich and poor maritime states. A comprehensive maritime reform agenda for Bangladesh must engage with these structural asymmetries and advocate for changes in the international maritime governance system that would make it more genuinely equitable.

Feminist international law theory, while less directly engaged with maritime law than with other branches of international law, offers important insights about the gender dimensions of maritime governance. The fishing communities of Bangladesh's coast are not gender-neutral entities; the division of labor in the fishing sector, the distribution of benefits from maritime resource use, and the impacts of maritime governance policies are all significantly shaped by gender relations. Women play important roles in post-harvest fisheries processing and trading, but they are largely excluded from formal fisheries management processes and from the direct benefits of offshore resource development. A gender-sensitive approach to maritime governance reform would pay explicit attention to these dynamics and would work to ensure that women's voices and interests are incorporated into maritime governance processes.

12.3 The Political Theory of Maritime Sovereignty

The political theory of sovereignty, which underpins the entire framework of state rights and responsibilities in international law, is directly relevant to the analysis of Bangladesh's maritime governance. The classical concept of sovereignty, developed in the European state system from the Peace of Westphalia through the development of modern international law, holds that states are the primary subjects of international law, that they possess supreme authority within their territories, and that they are equal in their legal status regardless of their differences in power and capacity.

The application of this classical sovereignty concept to the maritime domain is complex. The different maritime zones established by UNCLOS represent different expressions of sovereignty and sovereign rights. The territorial sea is subject to the full sovereignty of the coastal state, analogous to its authority over its land territory, though subject to the right of innocent passage. The exclusive economic zone and the continental shelf confer sovereign rights over resources and jurisdiction over specified activities, but not full sovereignty, since the freedom of navigation and overflight of other states is preserved. The high seas are subject to the jurisdiction of no state, while the Area is governed by the common heritage principle.

This graduated sovereignty framework reflects a political compromise between the interests of different categories of states. Coastal states with long coastlines and rich adjacent resources favor broad maritime jurisdiction. Maritime powers with strong navies and extensive distant-water fishing and shipping interests favor narrow coastal state jurisdiction and broad high seas freedoms. The UNCLOS compromise represented a balance between these competing interests, establishing the 200-mile exclusive economic zone as the primary instrument of coastal state resource sovereignty while preserving freedom of navigation and overflight throughout the zone.

For Bangladesh, the political theory of maritime sovereignty has important implications for its reform agenda. Bangladesh's sovereign rights over its exclusive economic zone are the legal foundation of its blue economy aspirations, and protecting and exercising these rights is a

fundamental national interest. But sovereignty in the maritime domain is not merely a matter of formal legal entitlement; it requires the material capacity to exercise jurisdiction effectively. A Bangladesh that nominally holds sovereign rights over its exclusive economic zone but lacks the capacity to enforce those rights against illegal fishing, pollution, and other violations of its jurisdiction is exercising a form of diminished sovereignty that falls short of the ideal.

Strengthening Bangladesh's effective maritime sovereignty therefore requires both legal reform, to clarify and strengthen the legal basis for Bangladesh's exercise of jurisdiction, and institutional and capacity-building reform, to ensure that Bangladesh has the physical and institutional resources necessary to exercise that jurisdiction effectively. This dual agenda, legal and institutional, is the practical expression of the political theory of maritime sovereignty for Bangladesh.

CHAPTER THIRTEEN: THE COMPREHENSIVE REFORM AGENDA

13.1 A Framework for Comprehensive Reform

The analysis presented in this chapter and throughout this textbook leads to the articulation of a comprehensive reform agenda for Bangladesh's maritime legal framework. This agenda is organized around five strategic priorities: first, the enactment of a comprehensive and integrated Maritime Code that replaces the current fragmented legislative landscape; second, the establishment of a National Maritime Authority with comprehensive coordinative responsibility for maritime governance; third, the strengthening of enforcement capacity in Bangladesh's maritime zones; fourth, the deepening of regional and international maritime cooperation; and fifth, the development of a sustainable and equitable blue economy governance framework.

These five strategic priorities are not independent of each other; they are mutually reinforcing elements of a comprehensive approach to maritime governance reform. Legislative reform without institutional strengthening will produce laws that are inadequately implemented. Institutional strengthening without legislative reform will produce agencies that lack clear legal mandates. Enforcement capacity without legal authority is meaningless. International cooperation without domestic institutional capacity is merely symbolic. And blue economy development without adequate legal and institutional governance will be inequitable and unsustainable.

13.2 The Comprehensive Maritime Code

The centerpiece of Bangladesh's legislative reform agenda should be the enactment of a comprehensive Maritime Code that consolidates, modernizes, and integrates Bangladesh's maritime legislation into a coherent and comprehensive instrument. Such a code, drawing on comparative models from Australia, Norway, Canada, and other sophisticated maritime states, should address the following dimensions of maritime governance:

Maritime zones and jurisdictional rights, including the precise delineation of Bangladesh's territorial sea, contiguous zone, exclusive economic zone, and continental shelf; the rights and obligations of foreign vessels in each zone; and the enforcement powers of Bangladesh's authorities in each zone.

Marine resources, including a comprehensive framework for the conservation and management of living marine resources, with specific provisions for sustainable fisheries management, marine protected areas, and the protection of endangered marine species; a comprehensive framework for the governance of non-living marine resources, including offshore petroleum, deep-sea minerals, and marine genetic resources; and a framework for the governance of marine renewable energy resources.

Marine environmental protection, including comprehensive provisions implementing Bangladesh's obligations under UNCLOS Part XII and relevant international environmental conventions; specific provisions on the prevention of pollution from ships, land-based sources, dumping, seabed activities, and atmospheric deposition; provisions on environmental impact assessment for maritime activities; and provisions establishing liability and compensation for marine environmental damage.

Maritime security, including provisions on anti-piracy, counter-terrorism, suppression of human trafficking by sea, counter-narcotics, and the enforcement of maritime boundaries; provisions establishing the powers and procedures of maritime enforcement agencies; and provisions on cooperation with foreign states and international organizations in maritime security.

Maritime commerce and shipping, including provisions on the regulation of merchant shipping, port administration, maritime labor, maritime insurance, and maritime contracts; provisions implementing Bangladesh's obligations under relevant international maritime conventions; and provisions establishing a modern framework for maritime dispute resolution.

Maritime science and research, including provisions governing marine scientific research in Bangladesh's maritime zones by both domestic and foreign researchers; provisions on the collection, storage, and sharing of marine scientific data; and provisions on cooperation with international maritime research programs.

Such a comprehensive Maritime Code would represent a transformative improvement in Bangladesh's maritime legal framework, replacing the current fragmented and inconsistent collection of statutes with a coherent and modern instrument that supports effective maritime governance.

13.3 Specific Legislative Priorities

Within the framework of the comprehensive Maritime Code, several specific legislative priorities deserve immediate attention.

The first is the enactment of a comprehensive Marine Fisheries Management Act that establishes a sustainable framework for the governance of Bangladesh's marine fisheries resources. Such an

act should include: a scientific basis for fisheries management, requiring the Department of Fisheries to conduct regular stock assessments and to set fishing limits based on maximum sustainable yield; a licensing system that limits entry into the fisheries to levels consistent with sustainable exploitation; gear and area restrictions to protect spawning grounds and juvenile fish; seasonal closures to protect fish during spawning seasons; provisions on the rights and interests of small-scale fishing communities; and robust enforcement mechanisms with meaningful penalties for violations.

The second is the enactment of a Offshore Petroleum Governance Act that establishes a comprehensive and transparent framework for the governance of offshore petroleum exploration and production. Such an act should include: a clear framework for licensing and concession agreements; provisions establishing the financial terms of petroleum production, including royalties, profit-sharing, and state participation; provisions on environmental protection and safety standards for offshore operations; provisions on the liability of operators for environmental damage; provisions establishing a petroleum revenue management fund; and provisions on local content and technology transfer requirements.

The third is the enactment of a Marine Environment Protection Act that comprehensively implements Bangladesh's international obligations on marine environmental protection and establishes an effective domestic framework for protecting and restoring the marine environment. Such an act should include: comprehensive provisions on the prevention of pollution from all sources; provisions on environmental impact assessment for maritime activities; provisions on marine protected areas; provisions on the protection of threatened marine species and habitats; and provisions establishing effective liability and compensation mechanisms for marine environmental damage.

The fourth is the enactment of a Maritime Security Act that consolidates and modernizes the legal framework for maritime security governance, establishing clear powers and procedures for the different agencies involved in maritime security, and providing an effective framework for cooperation with regional and international partners.

The fifth is the enactment of a Blue Economy Development Act that establishes a comprehensive governance framework for the development of Bangladesh's blue economy, integrating economic development objectives with environmental sustainability requirements and social equity considerations.

CHAPTER FOURTEEN: JURISPRUDENTIAL SYNTHESIS AND THE FUTURE OF BANGLADESH'S MARITIME LAW

14.1 Emerging Theories of Ocean Governance

The theory of ocean governance has developed significantly in recent years, moving beyond the framework of state-centric international law toward more complex, multi-actor, multi-level

understandings of how the oceans are and should be governed. Several emerging theoretical frameworks deserve attention in this context.

The concept of ecosystem-based management has gained increasing acceptance as the appropriate framework for marine resource governance. This approach recognizes that marine ecosystems are complex, interconnected systems in which different components interact in ways that simple single-species or single-sector management approaches cannot capture. Ecosystem-based management requires considering the impacts of human activities on the entire ecosystem, including non-target species, habitats, and ecological processes, rather than merely on the target resource or activity. The implementation of ecosystem-based management in Bangladesh's fisheries and broader maritime resource governance would represent a significant departure from current practice, which remains largely sector-by-sector and species-by-species in its approach.

The concept of integrated coastal zone management, which has been promoted by international organizations and donor agencies for several decades, provides a framework for integrating the governance of coastal areas across different sectors and levels of government. Bangladesh has developed integrated coastal zone management programs with international support, but their implementation has been uneven and they have not been effectively integrated into the mainstream of Bangladesh's maritime governance.

The concept of marine spatial planning, which involves the comprehensive, multi-sector planning of human activities in marine areas to ensure that different uses are compatible with each other and with the conservation of the marine environment, is gaining increasing acceptance internationally. Several European states have developed mandatory marine spatial planning frameworks, and the BBNJ Agreement includes provisions on area-based management tools that draw on marine spatial planning principles. Bangladesh has not yet developed a comprehensive marine spatial planning framework, and doing so should be a priority of its maritime governance reform agenda.

The concept of ocean commons governance, which draws on Elinor Ostrom's seminal work on the governance of common-pool resources, provides insights into how shared marine resources can be sustainably managed through institutional arrangements that create appropriate incentives for cooperative management, monitoring, and enforcement. Ostrom's principles for the governance of common-pool resources, including clearly defined boundaries, rules adapted to local conditions, collective choice arrangements, effective monitoring, graduated sanctions, conflict resolution mechanisms, and recognition of rights to organize, have been applied by scholars to the governance of marine fisheries and other shared ocean resources. These principles offer a useful framework for designing governance arrangements for Bangladesh's marine fisheries that go beyond the conventional command-and-control regulatory approach.

14.2 The Dialectic of International Norms and Domestic Law

One of the most important dimensions of Bangladesh's maritime legal reform agenda is the relationship between international maritime norms and Bangladesh's domestic legal framework. UNCLOS and other international maritime conventions create obligations that Bangladesh is

bound to implement in its domestic law, but the mechanisms for doing so and the degree of transformation required vary significantly across different areas.

Some international maritime norms can be incorporated directly into domestic law through relatively straightforward legislative provisions. The prohibition of piracy, for example, is a well-defined international norm that was incorporated into Bangladesh's domestic law through the 2021 amendment to the Territorial Waters and Maritime Zones Act. The technical requirements of MARPOL for the prevention of pollution from ships can similarly be incorporated through specific regulations that implement the convention's provisions.

Other international maritime norms require more substantial transformation when incorporated into domestic law. The principle of sustainable fisheries management, for example, involves complex scientific, economic, and social dimensions that cannot be reduced to simple legislative provisions. Effectively implementing this principle in Bangladesh's domestic law requires not just legislative text but supporting scientific institutions, governance processes, and enforcement mechanisms. Similarly, the principle of environmental impact assessment for maritime activities requires not just legal authorization but administrative capacity, technical expertise, and institutional processes for conducting and reviewing assessments.

The most demanding dimension of the relationship between international norms and domestic law concerns the incorporation of evolving international norms, including norms generated by the ITLOS Advisory Opinion of 2024 and the BBNJ Agreement of 2026, that may require significant changes in Bangladesh's existing legal framework and administrative practice. The climate change obligations articulated in the ITLOS Advisory Opinion, for example, go significantly beyond what Bangladesh's current domestic legislation and administrative practice require. Bringing Bangladesh's domestic legal framework into full compliance with these evolving international norms will require sustained effort over many years.

The dialectic between international norms and domestic law also has an important political dimension. International maritime obligations are not always consistent with the short-term political interests of domestic actors, and their implementation may face political resistance from affected industries, communities, or government agencies. Building the political coalitions necessary to sustain maritime law reform over time requires not just technocratic expertise but political leadership and the active engagement of civil society.

14.3 The Role of Courts in Maritime Law Development

The role of courts, both domestic and international, in the development of maritime law is a crucial dimension of Bangladesh's maritime governance that deserves systematic analysis. Courts have played a central role in the development of Bangladesh's maritime legal position through the landmark decisions of ITLOS in Bangladesh v. Myanmar and the Permanent Court of Arbitration in Bangladesh v. India, and courts will continue to play an important role in the development of Bangladesh's maritime law in the future.

The contribution of international courts to maritime law development operates through several mechanisms. The elaboration of legal principles, such as the equidistance-relevant circumstances

methodology for maritime delimitation, provides guidance to states in managing their maritime boundaries and avoiding disputes. The establishment of state obligations, such as the ITLOS Advisory Opinion's articulation of stringent climate change obligations under UNCLOS, creates normative standards against which state behavior can be measured and accountability enforced. The resolution of specific disputes, while binding only on the parties, establishes precedents that influence the behavior of other states and that are cited and applied in subsequent cases.

For Bangladesh, engaging actively with international maritime adjudication is an important element of its maritime governance strategy. Bangladesh has demonstrated its willingness to use international adjudication to vindicate its maritime rights, winning significant victories in its boundary disputes. The ITLOS Advisory Opinion of 2024 opens new possibilities for using international adjudication to hold major emitting states accountable for climate-related damage to Bangladesh's marine environment. Bangladesh should invest in the legal capacity, including the training of specialists in international maritime law, necessary to engage effectively with international adjudicative processes.

Domestic courts also play an important role in maritime law development, through the interpretation and application of Bangladesh's maritime statutes, the enforcement of international maritime conventions as incorporated into domestic law, and the adjudication of maritime disputes between private parties. As noted earlier, the establishment of a specialized Admiralty Division within Bangladesh's High Court Division would significantly enhance the capacity of Bangladesh's domestic courts to contribute to the development of a sophisticated body of national maritime jurisprudence.

CHAPTER FIFTEEN: PHILOSOPHICAL REFLECTIONS ON THE MARITIME CONDITION OF BANGLADESH

15.1 The Delta Nation and Its Maritime Identity

Bangladesh is a delta nation in a profound and literal sense. The Bengal delta, where three of Asia's great river systems converge and discharge into the Bay of Bengal, is the geographic foundation of Bangladesh's existence, its culture, its agriculture, and its maritime identity. For the people of Bangladesh, the relationship with water, whether the rivers that bring silt and fertility from the Himalayas, the monsoon rains that sustain agriculture and cause devastating floods, or the Bay of Bengal that has connected Bangladesh to global trade networks for centuries, is not merely an economic or environmental matter but a cultural and existential one.

This deep relationship between the Bengali people and water is reflected in a rich cultural tradition that includes poetry, folklore, music, and religious practices centered on rivers, the sea, and the annual rhythms of flood and fertility. The boat, the net, and the tide are not merely commercial instruments in Bengali culture; they are symbols of a way of life, a relationship with nature, and a mode of being in the world that has been shaped over centuries of living at the intersection of land and water.

This cultural dimension of Bangladesh's maritime identity has important implications for how the law of the sea should be understood and reformed in the Bangladeshi context. Legal reform that treats the maritime domain purely as an economic resource to be maximized or a security threat to be managed misses the deeper cultural and existential significance of the sea for the people of Bangladesh. A genuinely Bangladeshi approach to maritime law reform must engage with the cultural and spiritual dimensions of the maritime relationship, recognizing that the laws governing the sea are not merely technical regulatory instruments but expressions of the values and commitments of a society in relation to its natural environment.

The philosophy of environmental ethics provides resources for articulating this cultural insight in terms that can engage with broader theoretical debates. Aldo Leopold's concept of the land ethic, which holds that the ethical community must be extended beyond humans to include the broader ecological community of living beings and the physical environments that sustain them, can be extended to a maritime ethics that recognizes the intrinsic value of the marine environment and the obligations of human communities to care for the seas that sustain them. The deep ecology tradition, associated with philosophers like Arne Naess and George Sessions, goes further in arguing that nature has intrinsic value independent of its utility to humans, and that human governance of natural systems must be guided by a fundamental respect for the rights and interests of non-human members of the ecological community.

These environmental philosophical perspectives have increasingly influenced international environmental law, including maritime environmental law. The recognition of rights of nature in several domestic legal systems, including Ecuador, New Zealand, and Colombia, represents a radical departure from the anthropocentric framework of conventional law that treats natural environments purely as objects of human regulation. While such radical departures from conventional legal frameworks may not be immediately politically feasible in Bangladesh, the philosophical perspectives they express deserve serious engagement in the development of Bangladesh's maritime governance framework.

15.2 The Paradox of Maritime Sovereignty in the Anthropocene

The Anthropocene, the geological epoch defined by the global impact of human activities on the Earth's physical and biological systems, presents a profound challenge to the legal concept of maritime sovereignty. The oceans are increasingly affected by global-scale human impacts, including climate change, ocean acidification, plastic pollution, and noise pollution, that no individual state can effectively address through the exercise of its sovereign jurisdiction over its maritime zones. The classical framework of maritime sovereignty, which assumes that states can effectively manage their maritime environments through the exercise of territorial jurisdiction, is increasingly inadequate in the Anthropocene.

The ITLOS Advisory Opinion of 2024 can be read as a judicial recognition of this Anthropocene challenge to maritime sovereignty. By interpreting UNCLOS's provisions on the protection of the marine environment as imposing stringent obligations on states to control their greenhouse gas emissions, the Tribunal acknowledged that the marine environment of any given state cannot be effectively protected through purely national measures but requires global cooperation and

shared responsibility. This recognition has profound implications for the theoretical foundations of maritime sovereignty and for the design of maritime governance frameworks.

For Bangladesh, the Anthropocene challenge to maritime sovereignty is particularly acute. The primary threats to Bangladesh's marine environment, including climate change, sea-level rise, and ocean acidification, are caused predominantly by emissions from states other than Bangladesh. Bangladesh's sovereign jurisdiction over its maritime zones gives it authority to regulate human activities within those zones, but it cannot regulate the global atmospheric chemistry that is the ultimate cause of the most serious threats to its marine environment. This fundamental limitation of maritime sovereignty in the Anthropocene context highlights the importance of effective international governance mechanisms and of Bangladesh's active participation in the development and strengthening of those mechanisms.

The philosophical response to this limitation of sovereignty must go beyond a simple recognition of its existence to the articulation of alternative governance principles that can address global-scale environmental challenges. The principle of common but differentiated responsibilities, which has been central to the climate change governance framework, represents an attempt to maintain the state-centric framework of international law while acknowledging the different obligations of states with different histories of emissions and different capacities to act. The concept of planetary boundaries, developed by Johan Rockstrom and his colleagues, provides a scientific framework for identifying the limits within which human economic activity must be contained to maintain the stability of the Earth system, and has important implications for the governance of ocean resources.

Bangladesh's maritime governance framework must engage with these philosophical and scientific dimensions of the Anthropocene challenge. A blue economy strategy that aspires to grow Bangladesh's maritime industries without limit is not coherent in a context where the very viability of Bangladesh's maritime domain depends on staying within the planetary boundaries that current trajectories of global economic growth are breaching. A genuinely sustainable blue economy strategy must articulate ecological limits and governance mechanisms for respecting those limits, even when doing so requires restraint on economic ambitions.

15.3 Justice Across Time: The Rights of Future Generations and Maritime Governance

The principle of intergenerational equity, which holds that present generations have obligations to future generations and must manage natural resources in a manner that preserves comparable or better conditions for those who come after, has important implications for Bangladesh's maritime governance framework. The marine resources of Bangladesh's exclusive economic zone, including its fisheries, its offshore hydrocarbons, and its biodiversity, are not merely assets of the present generation but are part of a shared natural heritage that must be passed on to future Bangladeshis in a condition that allows them to meet their needs.

This intergenerational dimension of maritime justice is not merely a philosophical abstraction; it has direct practical implications for the design of maritime resource governance frameworks. A fisheries management framework that allows the depletion of fish stocks beyond maximum sustainable yield is a failure of intergenerational justice, because it trades the interests of future

generations for the immediate economic interests of the present. An offshore petroleum governance framework that fails to capture adequate revenues for long-term national development, or that causes environmental damage that will take decades to repair, is similarly a failure of intergenerational justice.

The philosophical foundations of intergenerational justice in maritime governance draw on several theoretical traditions. The liberal political philosophy tradition, including Rawls's concept of just savings and the obligations of each generation to maintain just institutions for its successors, provides one foundation. The natural law tradition, which holds that natural resources are given to all humanity, including future generations, provides another. The indigenous rights tradition, which emphasizes the obligations of present communities to care for natural environments for the benefit of seven generations into the future, provides a third.

For Bangladesh, articulating and implementing principles of intergenerational justice in maritime governance is both a philosophical commitment and a practical necessity. A Bangladesh that depletes its marine fisheries, exhausts its offshore petroleum without building a diversified economic base, and allows its marine ecosystems to degrade beyond recovery will have failed the most basic test of intergenerational justice. The maritime governance reforms advocated in this textbook are, at their deepest level, an expression of the commitment to ensure that future generations of Bangladeshis inherit a maritime domain that is as productive, as diverse, and as vital as the one that the present generation has inherited.

CHAPTER SIXTEEN: CONTROVERSIES, CRITIQUES, AND CONTESTED TERRAIN

16.1 The Deep-Sea Mining Controversy and Bangladesh's Position

The controversy over deep-sea mining is one of the most contested issues in contemporary international maritime governance, and it is one in which Bangladesh has both direct interests and important perspectives to contribute. Deep-sea mining proponents argue that the polymetallic nodules, seafloor massive sulfide deposits, and cobalt-rich crusts found on the deep ocean floor contain vast reserves of critical minerals, including cobalt, nickel, manganese, copper, and rare earth elements, that are needed for the transition to clean energy technologies and that cannot be adequately supplied from terrestrial deposits without severe environmental and social impacts.

Deep-sea mining critics argue that the deep ocean floor is an extraordinarily biodiverse and poorly understood environment that would be severely damaged by commercial-scale mining operations, and that the potential benefits of deep-sea mining are exaggerated while its environmental risks are underestimated. The scientific evidence on the ecological impacts of deep-sea mining is genuinely uncertain, but there is growing scientific consensus that the deep-sea ecosystems targeted for mining are unique, fragile, and very slowly recovering, and that large-scale mining operations could cause irreversible damage.

The International Seabed Authority's development of the Mining Code, which will govern commercial deep-sea mining operations in the Area, has been significantly slower and more contentious than originally anticipated. The calls for a precautionary moratorium on deep-sea mining, supported by a growing number of states and civil society organizations, reflect the seriousness of the environmental concerns. At the same time, the states and commercial actors that have made significant investments in deep-sea mining exploration are eager to move forward with commercial exploitation.

Bangladesh's position in this debate should reflect its interests as a developing state, as a climate-vulnerable nation that needs the critical minerals required for clean energy technologies, and as a coastal state with marine environment interests in the Bay of Bengal that could be affected by mining in adjacent areas of the Area. Bangladesh should advocate for a Mining Code that provides strong environmental protection standards, that ensures a fair distribution of benefits to developing states, and that preserves the precautionary principle as a genuine constraint on mining activities until their environmental impacts are better understood.

16.2 The South China Sea and Its Implications for Bangladesh

While Bangladesh is not a party to the South China Sea disputes, the manner in which those disputes are managed has important implications for the global maritime order and for Bangladesh's maritime governance context. The South China Sea disputes, which involve overlapping claims by China, Vietnam, the Philippines, Malaysia, Brunei, and Taiwan over islands, reefs, and maritime zones, are among the most complex and potentially dangerous maritime disputes in the world.

The 2016 Arbitral Award in the South China Sea case brought by the Philippines against China, which invalidated China's broad nine-dash line claim and made important findings about the status of various maritime features, represented a significant development in international maritime law. China's rejection of the Award and its continued assertion of its expansive maritime claims despite the Tribunal's ruling has been widely criticized as a challenge to the rule of law in maritime governance. At the same time, the Award has been criticized by some scholars for overstepping the boundaries of legal analysis and for making findings on territorial sovereignty that went beyond the Tribunal's jurisdiction.

For Bangladesh, the South China Sea dispute is relevant in several ways. The principle that maritime zones cannot be claimed on the basis of straight baselines from features that are not entitled to generate maritime zones, which was a central finding of the 2016 Award, has general application to maritime law and could be relevant to future maritime boundary disputes in the Bay of Bengal. The principle that states must comply with international adjudicative decisions, which China's rejection of the Award has challenged, is fundamental to the system of dispute settlement that Bangladesh has relied on in its own maritime disputes and has a strong interest in preserving.

More broadly, the South China Sea dispute illustrates the limits of international law in the face of determined resistance by a powerful state. Bangladesh's maritime law reform agenda must be designed not just for a world in which states comply with international law but for a world in

which powerful states sometimes reject inconvenient legal findings. Building Bangladesh's own capacity to assert and defend its maritime rights, through adequate naval and coast guard capabilities and through active diplomatic engagement, is therefore an important complement to the legal dimension of Bangladesh's maritime strategy.

16.3 The Rohingya Crisis and Maritime Law

The Rohingya crisis, which has generated the largest refugee displacement in Bangladesh's recent history, has important dimensions that intersect with maritime law. The movement of Rohingya refugees by sea, both from Myanmar to Bangladesh and from Bangladesh to other destination states in the region, involves a range of maritime law issues including search and rescue obligations, the right of non-refoulement at sea, the suppression of people smuggling, and the treatment of migrants intercepted at sea.

The right of non-refoulement, which prohibits the return of persons to places where they face persecution or serious harm, applies in the maritime domain as well as on land. States that intercept boats carrying Rohingya refugees at sea and push them back to Myanmar without considering their refugee claims are potentially in violation of their non-refoulement obligations. Bangladesh has been criticized by human rights organizations for incidents in which boats carrying Rohingya refugees were pushed back from Bangladesh's territorial waters, though Bangladesh argues that it has already borne a disproportionate share of the refugee burden and cannot absorb unlimited additional arrivals.

UNCLOS imposes obligations on states to provide assistance to persons in distress at sea, including persons on vessels in danger. These obligations apply regardless of the nationality or immigration status of the persons involved and create a duty to rescue persons on overcrowded or unseaworthy boats regardless of whether those persons are considered legitimate refugees or economic migrants.

The suppression of people smuggling networks that operate in the Bay of Bengal, exploiting the desperation of Rohingya refugees and other migrants, is a legitimate and important maritime security objective. But the suppression of people smuggling must be conducted in a manner that respects the rights of the persons being smuggled, including their right to seek asylum and their right to be rescued if their vessel is in distress.

Bangladesh's maritime law reform agenda must address these complex and sensitive issues in a manner that reflects both Bangladesh's legitimate security interests and its international human rights and maritime law obligations. The development of a comprehensive maritime migration policy, integrated with Bangladesh's maritime security and search and rescue frameworks, is an important element of this agenda.

CHAPTER SEVENTEEN: TECHNOLOGY, INNOVATION, AND THE FUTURE OF MARITIME LAW

17.1 Autonomous Marine Vehicles and the Law of the Sea

The development of autonomous marine vehicles, including unmanned surface vessels, autonomous underwater vehicles, and remotely operated underwater systems, is creating new challenges for international maritime law that existing frameworks are poorly equipped to address. Autonomous marine vehicles are being deployed for a growing range of maritime purposes, including oceanographic research, military surveillance, offshore energy inspection and maintenance, maritime security patrol, and, increasingly, commercial shipping.

The application of international maritime law to autonomous marine vehicles raises fundamental questions about concepts that were designed for crewed vessels. The definition of a ship under UNCLOS and other maritime conventions typically assumes the presence of a master and crew who bear responsibility for the conduct of the vessel. The rules on safe navigation, collision avoidance, and distress signaling all assume that a vessel has a human crew capable of making decisions and taking action. The right of innocent passage through the territorial sea assumes that a vessel's passage is the passage of persons who can exercise judgment about whether their passage is in fact innocent.

When maritime vehicles operate autonomously, without a crew on board, these assumptions break down. Who bears responsibility for the navigation of an autonomous vessel? What legal entity is the "master" of an autonomous vessel for the purposes of maritime law? How do the rules on innocent passage apply to an autonomous vehicle whose algorithms determine its course and conduct? These questions have not yet been definitively resolved by international maritime law, and the pace of development of autonomous marine technology is outrunning the capacity of legal frameworks to address them.

Bangladesh's maritime legal framework needs to anticipate these developments and develop appropriate regulatory frameworks for autonomous marine vehicles. This means developing domestic legislation on the registration, licensing, and operation of autonomous marine vehicles in Bangladesh's waters; establishing clear rules on the liability of operators and manufacturers of autonomous vehicles for damage caused by their systems; and engaging with the international legal debates about the status and treatment of autonomous marine vehicles under UNCLOS and other conventions.

17.2 Digital Technology and Maritime Governance

The application of digital technology to maritime governance is transforming the capacity of states to monitor and enforce their maritime zones in ways that were impossible just a generation ago. Satellite-based vessel monitoring systems can track the position and movement of ships throughout the world's oceans in real time. Automatic Identification System transponders, which are required on commercial vessels of a certain size, broadcast the vessel's identity, position, course, and speed. Remote sensing technology can detect oil spills, illegal fishing, and other maritime violations from space.

These technological capabilities offer significant opportunities for improving the effectiveness of Bangladesh's maritime governance. Satellite-based monitoring could allow Bangladesh to track

vessels operating in its exclusive economic zone without the need for physical patrol, enabling much more comprehensive surveillance than its current fleet of patrol vessels can achieve. The integration of AIS data with satellite imagery and vessel monitoring system data could provide a comprehensive picture of maritime activity in Bangladesh's waters that would support more effective enforcement of fisheries, environmental, and security regulations.

But the application of digital technology to maritime governance also raises important legal questions. The use of satellite surveillance to detect violations of Bangladesh's maritime laws requires legal authority to use that evidence in enforcement proceedings. The sharing of maritime surveillance data with regional partners raises questions about data sovereignty and the protection of commercially sensitive information. The development of artificial intelligence systems to analyze satellite imagery and AIS data and to identify potential violations raises questions about the legal validity of algorithmically generated evidence and the accountability of decision-making systems.

Bangladesh's maritime legal framework needs to be developed in a manner that both enables the use of these powerful new technological tools and that establishes appropriate legal frameworks for their application. This means developing legislation on the use of remote sensing and digital surveillance in maritime enforcement, establishing rules on the admissibility of digitally gathered evidence in maritime proceedings, and developing data protection and sharing frameworks that support regional cooperation while protecting sensitive information.

17.3 The Governance of Submarine Cables and Pipelines

The digital economy and the global telecommunications system are dependent on a network of submarine cables that carry approximately 95 percent of international internet traffic. The Bay of Bengal is crossed by several important submarine cable systems that connect Bangladesh and other regional states to global telecommunications networks. The governance and protection of these cables is therefore a matter of significant strategic and economic importance.

UNCLOS provides some provisions on submarine cables, including the freedom to lay submarine cables in the exclusive economic zone and on the continental shelf, subject to coastal state regulation, and on the high seas. But the protection of submarine cables from deliberate damage or disruption is addressed only partially in existing international legal frameworks, and the governance of the enormous amount of data that flows through submarine cables is governed primarily by the domestic laws of the states where the cables land, creating jurisdictional complexity.

The growing strategic significance of submarine cables has attracted increasing attention from military and security planners, who recognize that attacks on submarine cable infrastructure could have catastrophic consequences for global communications and economic activity. Several incidents of submarine cable damage, whether from ship anchors, trawling gear, or deliberate sabotage, have demonstrated the vulnerability of this critical infrastructure.

Bangladesh's maritime legal framework should address the governance and protection of submarine cables in its territorial sea and exclusive economic zone, including clear rules on the

authority of Bangladesh to regulate cable-laying activities, provisions on the liability of vessels that damage cables through negligent activities, and provisions on the cooperation of Bangladesh with other states and with cable operators in the protection of cable infrastructure.

CHAPTER EIGHTEEN: HUMAN RIGHTS, MARITIME LABOR, AND OCEAN JUSTICE

18.1 Human Rights at Sea

The application of international human rights law to maritime contexts is an increasingly important dimension of maritime governance that Bangladesh's legal reform agenda must address. Human rights obligations apply to states in the exercise of their maritime jurisdiction, meaning that Bangladesh's enforcement of its maritime laws must comply with human rights standards, including the right to a fair trial for persons detained for maritime offenses, the prohibition of torture and cruel treatment, and the right of persons in distress at sea to receive assistance.

The human rights dimensions of maritime governance are particularly salient in several contexts. The treatment of fishers arrested for illegal fishing in Bangladesh's waters, including the conditions of their detention and the fairness of the proceedings against them, must meet international human rights standards. The treatment of Rohingya and other migrants intercepted at sea, including the application of the non-refoulement principle and the duty to provide assistance to persons in distress, is governed by international human rights and refugee law as well as by maritime law. The rights of maritime workers, including those employed on fishing vessels and merchant ships, are governed by a combination of maritime labor law and human rights standards.

Bangladesh has ratified the International Labour Organization's Work in Fishing Convention, which establishes minimum labor standards for persons employed in the fishing sector. The implementation of these standards in Bangladesh's domestic law and administrative practice is an important human rights obligation that also serves the goal of ensuring that Bangladesh's fisheries are governed in a manner that respects the dignity and rights of fishing workers.

18.2 Small-Scale Fishers and the Politics of Marine Justice

The political economy of fisheries governance in Bangladesh is characterized by significant power asymmetries between large-scale commercial fishing interests, which are politically well-connected and economically powerful, and the millions of small-scale fishers who depend on the sea for their livelihoods but have limited political voice. Fisheries governance policies that serve the interests of large-scale commercial operators at the expense of small-scale fishers represent not merely a failure of governance but a violation of the human rights and social justice commitments of the state.

The concept of ocean justice, which has been articulated by scholars and civil society organizations working on marine governance, holds that the governance of the oceans must be conducted in a manner that respects the rights and interests of all users, including the most vulnerable, and that distributes the benefits and burdens of ocean resource use equitably. Applied to Bangladesh's fisheries governance, the ocean justice framework would require: recognition of the rights of small-scale fishing communities to access marine resources; mechanisms for their meaningful participation in fisheries governance decisions; protection of their customary fishing grounds from displacement by large-scale commercial operations; and equitable distribution of the benefits of sustainable fisheries management.

Bangladesh's Marine Fisheries Act of 2020 represents an important step forward in recognizing the rights and interests of small-scale fishers, but its implementation has been incomplete and its provisions on stakeholder participation remain inadequate. The development of a genuinely participatory approach to fisheries governance, in which small-scale fishing communities have a meaningful role in decision-making, is both a justice imperative and a practical necessity for effective fisheries management.

18.3 Gender, Women, and Maritime Governance

The gender dimensions of maritime governance in Bangladesh are often overlooked in mainstream maritime law discourse, but they are significant and deserve explicit attention in any comprehensive reform agenda. Women play important roles in Bangladesh's maritime economy, particularly in post-harvest fish processing and trading, but they are largely excluded from formal fisheries management processes and from the direct benefits of blue economy development.

The role of women in Bangladesh's coastal economy has been studied by social scientists and development researchers, who have documented the significant contributions of women to fish processing, marketing, and household food security in coastal communities, as well as the gender-based discrimination and vulnerability that women in these communities often face. Women fishers and fish workers are often particularly vulnerable to the impacts of maritime governance policies, including those that restrict access to coastal resources or that displace coastal communities for development projects.

Integrating gender perspectives into maritime governance reform requires going beyond simply noting the participation of women in the maritime sector to fundamentally rethinking governance processes and outcomes from a gender equality perspective. This means ensuring that women have meaningful participation in fisheries management bodies, that gender analysis is conducted as part of the development of maritime governance policies, that gender-disaggregated data is collected and used in maritime governance decision-making, and that the particular needs and vulnerabilities of women in coastal and fishing communities are explicitly addressed in governance frameworks.

CHAPTER NINETEEN: TOWARD A BANGLADESHI MARITIME JURISPRUDENCE

19.1 The Development of a National Maritime Legal Identity

One of the most important long-term objectives of Bangladesh's maritime law reform agenda is the development of a distinctive national maritime legal identity that reflects Bangladesh's particular geographic, cultural, developmental, and political context while engaging constructively with the evolving framework of international maritime law. This is not a parochial or nationalistic objective; it is a recognition that effective maritime governance must be rooted in the specific social, ecological, and institutional context of the state, while also being coherent with international norms and obligations.

A distinctive Bangladeshi maritime jurisprudence would draw on several sources. It would draw on the rich Bengali cultural tradition in its relationship with the sea, the rivers, and the natural world, recognizing the deep cultural significance of maritime governance for the people of Bangladesh. It would draw on the constitutional framework of Bangladesh, including its commitments to social justice, environmental protection, and the development of the nation's resources for the benefit of all citizens. It would draw on the specific geographic context of Bangladesh as a delta nation with particular vulnerabilities and opportunities. And it would draw on the evolving framework of international maritime law, including UNCLOS, the BBNJ Agreement, and the developing jurisprudence of ITLOS and other international tribunals.

The development of a distinctive Bangladeshi maritime jurisprudence requires investment in maritime legal scholarship and legal education. The universities of Bangladesh, particularly those with law faculties, should develop specialized programs in maritime law that provide students with comprehensive training in both domestic maritime law and international maritime law, as well as in the comparative and theoretical dimensions of maritime governance. The establishment of a dedicated maritime law research center within a leading Bangladeshi university would support the development of the scholarly capacity needed to contribute to the development of Bangladeshi maritime jurisprudence.

19.2 Engaging with the Global Maritime Order

Bangladesh's engagement with the global maritime order should be informed by a clear-eyed understanding of both its interests and its values. As a developing coastal state with significant maritime resources and significant maritime vulnerabilities, Bangladesh has a fundamental interest in a stable, rules-based international maritime order in which states' rights under UNCLOS are respected, disputes are resolved peacefully through established mechanisms, and the benefits of maritime resources are shared equitably.

Bangladesh should be an active and constructive participant in all the major international institutions and forums that shape the global maritime order, including the International Seabed Authority, the International Maritime Organization, the Commission on the Limits of the Continental Shelf, the International Tribunal for the Law of the Sea, and the Conference of the Parties to the BBNJ Agreement. In these forums, Bangladesh should advance positions that reflect both its specific national interests and its broader commitment to a fair and sustainable global maritime order.

Bangladesh should also invest in building the diplomatic and legal capacity needed to engage effectively in international maritime governance. This means training diplomats and lawyers with specialized expertise in maritime law, developing clear and coherent national positions on major maritime governance issues, and building coalitions with like-minded states, particularly other developing coastal states and small island developing states, to advocate effectively for shared interests.

19.3 Lessons from the Landmark Cases and Their Jurisprudential Legacy

The landmark international adjudications involving Bangladesh, particularly the 2012 ITLOS Judgment in Bangladesh v. Myanmar and the 2014 PCA Award in Bangladesh v. India, have left a significant jurisprudential legacy that extends beyond the specific maritime boundaries they established. These cases have contributed to the development of the international law of maritime delimitation, particularly in relation to the treatment of concave coastlines, the adjustment of equidistance lines to account for relevant circumstances, and the application of proportionality as a check on the results of delimitation exercises.

The jurisprudential legacy of these cases is also significant for Bangladesh's domestic legal development. The detailed reasoning of ITLOS and the PCA Tribunal in these cases provides the clearest articulation of Bangladesh's maritime rights and the legal principles that underpin them. Bangladesh's courts, government officials, and legal scholars should be thoroughly familiar with this reasoning and should draw on it in their work on maritime governance.

More broadly, Bangladesh's experience of using international adjudication to vindicate its maritime rights against larger and more powerful neighbors has important lessons for the development of Bangladesh's overall approach to international law. The willingness to use legal mechanisms to assert rights against powerful states, and the patience required to pursue those mechanisms to a successful conclusion, are qualities that Bangladesh should cultivate in its broader engagement with international law.

CHAPTER TWENTY: CONCLUSION AND SYNTHESIS

20.1 Synthesis: The Argument Revisited

This textbook has advanced a sustained argument across twenty parts that Bangladesh's maritime legal framework requires comprehensive, philosophically grounded, and politically committed reform. The argument rests on four pillars.

The first pillar is historical. Bangladesh inherited a maritime legal framework rooted in colonial governance priorities that are fundamentally ill-suited to the needs of an independent developing state with significant maritime resources and aspirations. The accretion of post-independence legislation, while representing genuine progress, has not overcome the fundamental fragmentation and inadequacy of this inherited framework. A fundamental legislative renewal is needed, not merely incremental amendment of existing statutes.

The second pillar is jurisprudential. The evolving framework of international maritime law, including the landmark ITLOS Advisory Opinion of 2024 on climate change, the entry into force of the BBNJ Agreement in January 2026, and the continuing development of UNCLOS jurisprudence through international adjudication, imposes new obligations and creates new opportunities for Bangladesh that its current legal framework is inadequate to address. Bringing Bangladesh's domestic maritime law into coherence with these evolving international norms is both a legal obligation and a strategic opportunity.

The third pillar is developmental. Bangladesh's blue economy aspirations, which envision the development of marine fisheries, offshore petroleum, maritime tourism, deep-sea resources, and other maritime industries as engines of the next phase of the country's development, cannot be realized without a comprehensive, coherent, and effective maritime governance framework. The current framework, with its fragmentation, inadequacies, and enforcement deficiencies, is a significant obstacle to sustainable blue economy development.

The fourth pillar is ethical. The governance of Bangladesh's maritime zones raises profound questions of justice, including justice to small-scale fishing communities, justice to future generations, justice in the distribution of the benefits and burdens of climate change, and justice in the global distribution of maritime development opportunities. These ethical dimensions are not peripheral to the technical task of maritime law reform; they are central to the philosophical coherence and long-term sustainability of any reform program.

20.2 The Reform Agenda: A Summary

Drawing together the specific reform recommendations advanced throughout this textbook, the comprehensive reform agenda for Bangladesh's maritime law can be summarized as follows.

At the legislative level, the primary task is the enactment of a comprehensive Maritime Code that consolidates and modernizes Bangladesh's maritime legislation. Within the framework of this comprehensive code, priority should be given to the enactment of a Marine Fisheries Management Act, an Offshore Petroleum Governance Act, a Marine Environment Protection Act, a Maritime Security Act, and a Blue Economy Development Act. These instruments should incorporate the full range of Bangladesh's UNCLOS obligations, draw on comparative best practice from other maritime states, and be designed specifically to serve the developmental, environmental, and social justice objectives of Bangladesh.

At the institutional level, the primary task is the establishment of a National Maritime Authority with comprehensive coordinative responsibility for maritime governance, supported by a dedicated maritime law research center in the university sector and a specialized Admiralty Division within the Supreme Court. The Bangladesh Coast Guard should be substantially strengthened in terms of vessels, personnel, and technology to enable effective enforcement of Bangladesh's maritime laws.

At the international level, Bangladesh should engage actively with all major international maritime governance institutions and forums, advocate for positions that reflect both its specific interests and its broader commitment to a fair and sustainable global maritime order, and invest

in the diplomatic and legal capacity needed to engage effectively in international maritime governance.

At the developmental level, Bangladesh should develop a comprehensive and integrated Blue Economy Strategy that aligns economic development objectives with environmental sustainability requirements, social equity considerations, and international maritime law obligations. This strategy should include specific policies for the sustainable development of marine fisheries, offshore petroleum, maritime tourism, marine biotechnology, offshore renewable energy, and other maritime industries.

At the environmental level, Bangladesh should develop a comprehensive marine environmental protection program that addresses the full range of threats to its marine environment, including land-based pollution, shipping pollution, overexploitation of resources, habitat destruction, and climate change impacts. This program should include the establishment of a network of marine protected areas, the development of a comprehensive monitoring and enforcement system, and active engagement with regional and global environmental governance mechanisms.

20.3 The Vision: Bangladesh as a Model Maritime State

The ultimate objective of this reform agenda is not merely technical improvement in the administration of Bangladesh's maritime zones, though technical improvement is certainly important. The ultimate objective is to position Bangladesh as a model maritime state that demonstrates how a developing country with significant maritime resources and vulnerabilities can build a comprehensive, effective, and equitable maritime governance framework that serves the interests of its people while fulfilling its international obligations and contributing constructively to the development of global maritime law.

This vision is ambitious but not unrealistic. Bangladesh has already demonstrated, through its successful pursuit of maritime boundary delimitation against larger neighbors, that it can engage effectively with international maritime law to advance its interests. Bangladesh has demonstrated, through its early ratification of the BBNJ Agreement, that it can be a constructive and forward-looking participant in the development of new international maritime governance frameworks. And Bangladesh has demonstrated, through its blue economy aspirations and the energy and creativity of its people, that it has the ambition and the potential to become a genuine maritime power.

The realization of this vision requires sustained political commitment at the highest level, adequate investment in the human and institutional resources needed for effective maritime governance, and the engagement of civil society, academia, and the private sector in the development and implementation of the reform agenda. It requires patience, because meaningful institutional reform takes time. It requires humility, because the complexity of maritime governance challenges means that mistakes will be made and course corrections will be necessary. And it requires courage, because the reform agenda involves taking on powerful vested interests and overcoming institutional inertia.

But it is a vision worth pursuing. The sea that borders Bangladesh is not merely a resource to be exploited or a boundary to be defended. It is a living system that has sustained the people of the Bengal delta for millennia and that, if governed wisely and justly, can continue to do so for the generations that come after. The law of the sea, at its best, is not merely a technical regulatory framework but an expression of humanity's commitment to sharing and stewardizing the common maritime heritage that connects all the peoples of the earth. Bangladesh's contribution to that commitment, through the development of a comprehensive, just, and effective maritime legal framework, is both a national interest and a global responsibility.

This is the vision that animates the reform agenda proposed in this textbook, and it is the vision that should guide Bangladesh's approach to the law of the sea in the years and decades ahead. The ocean awaits a wiser governance. The people of Bangladesh await a more just and effective maritime law. And the future generations of this delta nation await the assurance that the seas their ancestors worked for centuries will remain productive, healthy, and theirs to inherit.

EPILOGUE: THE OCEAN AT THE CROSSROADS

The global ocean stands at a crossroads in 2026. The entry into force of the BBNJ Agreement on January 17, 2026 marks the beginning of a new era in the governance of the high seas. The ITLOS Advisory Opinion of May 2024 has transformed the legal landscape of climate obligations under UNCLOS. The deep-sea mining controversy continues to test the limits of the common heritage principle. The governance of emerging maritime technologies, from autonomous vessels to submarine data cables, challenges the adequacy of frameworks drafted before the digital age. And the accelerating impacts of climate change, ocean acidification, plastic pollution, and biodiversity loss are testing the resilience of marine ecosystems that have sustained human civilization for all of recorded history.

Bangladesh stands at this crossroads as a nation that has more at stake in the outcome than most. Its low-lying coastal geography, its dense population, its deep cultural connection to the sea, and its ambitious developmental aspirations all make the governance of the ocean a matter of existential importance. The legal victories Bangladesh has already won, in the ITLOS and PCA tribunals, establish the jurisdictional foundation on which its maritime future must be built. The theoretical frameworks, philosophical principles, and comparative lessons surveyed in this textbook provide the intellectual foundation for building that future wisely and justly.

The most important insight that emerges from this comprehensive survey of Bangladesh's law of the sea is simple but profound: effective maritime governance is not just a technical problem. It is a political problem, a philosophical problem, a cultural problem, and ultimately a problem of what kind of society Bangladesh wants to be and what kind of relationship it wants to have with the natural world that sustains it. No amount of legal drafting, institutional design, or technical expertise can substitute for the political will, philosophical clarity, and cultural commitment that genuine maritime governance reform requires.

The commentary in this textbook is offered in the spirit of supporting that deeper project, of contributing to the conversation that Bangladesh's citizens, scholars, policymakers, and legal practitioners must conduct with each other and with the world about the governance of their maritime heritage. The ocean has much to give. The law, at its best, can help ensure that its gifts are received wisely, shared justly, and preserved faithfully for all who come after.

The waves break on Bangladesh's shores each day, indifferent to the legal texts that seek to govern the waters from which they come. But law, however imperfect, is the best instrument humanity has developed for governing its shared natural inheritance. Perfecting that instrument, in Bangladesh's maritime domain, is the task that this textbook has sought to illuminate and advance.

SELECTED BIBLIOGRAPHY AND FURTHER READING

The following thematic bibliography organizes the major scholarly, legal, and policy sources relevant to the subjects addressed in this Part and throughout this textbook. It is organized by theme to facilitate further reading in specific areas.

Foundational Works on the Law of the Sea

The foundational treatises on the international law of the sea include the works of Rosalyn Higgins, Malcolm Shaw, and Yoshifumi Tanaka. The latter's comprehensive text on the international law of the sea provides an authoritative and detailed survey of UNCLOS and its interpretation. The works of Myron Nordquist and his colleagues provide a detailed commentary on UNCLOS provision by provision that is an invaluable research resource. The scholarly journal Ocean Development and International Law, published by Taylor and Francis, is the primary academic venue for scholarly contributions to the field.

Bangladesh-Specific Maritime Law and Policy

Academic literature on Bangladesh's specific maritime legal context includes contributions published in the Dhaka University Law Journal, the Bangladesh Journal of Law, and international journals including the International Journal of Marine and Coastal Law. Research monographs and dissertations addressing Bangladesh's maritime boundary disputes, maritime resource governance, and blue economy policy have been produced at the University of Dhaka, the University of Chittagong, North South University, and several international universities.

International Maritime Adjudication

The judgments and advisory opinions of the International Tribunal for the Law of the Sea are available through the Tribunal's official website and are extensively commented on in academic journals including the International Journal of Marine and Coastal Law and the German Yearbook of International Law. The awards of arbitral tribunals under Annex VII and Annex

VIII of UNCLOS are published through the Permanent Court of Arbitration and commented on extensively in academic literature.

Marine Environmental Law and Climate Change

The evolving body of literature on marine environmental law and climate change has been stimulated significantly by the ITLOS Advisory Opinion of May 2024. The Review of European, Comparative and International Environmental Law and the International Environmental Agreements journal are key venues for scholarship in this field. The Columbia Law School Sabin Center for Climate Change Law maintains an extensive database of climate law developments including the ITLOS Advisory Opinion.

Political Philosophy and Ocean Governance

The application of political philosophy to ocean governance has generated an interesting body of interdisciplinary scholarship. Works by Allen Buchanan on the justice of international institutions, by Thomas Pogge on global justice and resource governance, and by Elinor Ostrom on common-pool resource governance provide important theoretical resources. The ocean commons literature, including works by Prue Taylor and Klaus Bosselman, connects environmental political philosophy to maritime governance.

Regional Maritime Governance and the Bay of Bengal

Literature on maritime governance in the Bay of Bengal region includes publications by the Indian Ocean Rim Association, the BOBLME Project, and various research institutions in India, Bangladesh, Sri Lanka, and Myanmar. The journal Maritime Affairs, published by the National Maritime Foundation of India, provides extensive coverage of maritime governance issues in the Indian Ocean region including the Bay of Bengal.

Emerging Issues in Maritime Law

The governance of autonomous marine vehicles, digital technology in maritime enforcement, submarine cable governance, and the BBNJ Agreement are subjects of rapidly growing literatures. Journals including the Computer Law and Security Review, the Journal of Maritime Law and Commerce, and the International Journal of Marine and Coastal Law carry significant scholarly contributions to these areas. The United Nations Division for Ocean Affairs and the Law of the Sea publishes regular updates on developments in the law of the sea that provide valuable current information.

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GLOSSARY

Alphabetical glossary of key legal, technical, and policy terms used throughout the treatise.

A

Advisory Opinion

A non-binding legal opinion issued by an international court or tribunal at the request of a competent body, clarifying principles of international law; in the maritime context, ITLOS Advisory Opinion No. 31 (2024) and the ICJ Advisory Opinion (2025) are landmark examples addressing climate obligations under UNCLOS.

Ambulatory Baseline

A baseline that shifts position over time as the low-water line along a dynamic coastline (especially a delta) moves due to sedimentation, erosion, or sea-level rise; a particular concern for Bangladesh given its deltaic geography.

Area, The

The seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction, declared by UNCLOS to be the common heritage of mankind and governed by the International Seabed Authority.

B

BAPEX

Bangladesh Petroleum Exploration and Production Company Limited, the state-owned national oil and gas exploration entity operating under Petrobangla.

Baseline

The low-water line along the coast as marked on official large-scale charts, or a system of straight lines, from which the breadth of the territorial sea and other maritime zones is measured pursuant to UNCLOS Articles 5 to 14.

BBNJ Agreement

The Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, adopted by the United Nations in June 2023, establishing governance frameworks for high seas biodiversity, marine genetic resources, area-based management tools, and environmental impact assessment in areas beyond national jurisdiction.

BIMSTEC

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, a regional organisation comprising Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand, whose secretariat is located in Dhaka, Bangladesh.

Blue Economy

The sustainable use of ocean resources for economic growth, improved livelihoods, and ocean ecosystem health; encompasses fisheries, maritime transport, coastal tourism, offshore energy, marine biotechnology, and marine spatial planning.

BOBP-IGO

The Bay of Bengal Programme Inter-Governmental Organisation, a regional fisheries body supporting sustainable fisheries development in the Bay of Bengal.

C

Cannon-Shot Rule

The eighteenth-century principle, attributed to Cornelius van Bynkershoek, that the extent of coastal state maritime sovereignty corresponds to the effective range of shore-based artillery, subsequently translated into the three-mile rule.

Capability Approach

A framework of justice developed by Amartya Sen and Martha Nussbaum that measures development and equity not by resources alone but by the actual capabilities of individuals to live lives they have reason to value.

CLCS

The Commission on the Limits of the Continental Shelf, established under Annex II of UNCLOS to review submissions by coastal states seeking recognition of extended continental shelf entitlements beyond 200 nautical miles.

Common Heritage of Mankind

A principle of international law, introduced by Arvid Pardo before the UN General Assembly in 1967 and enshrined in UNCLOS Part XI, providing that the resources of the deep seabed (the Area) belong not to any state but to mankind as a whole, including future generations.

Constructivism

A theory of international relations, associated with Alexander Wendt and Nicholas Onuf, holding that the structures of international politics and law are socially constructed through shared ideas, norms, and intersubjective understandings rather than being determined solely by material factors.

Contiguous Zone

A maritime zone extending up to 24 nautical miles from the baseline within which the coastal state may exercise control necessary to prevent or punish infringement of its customs, fiscal, immigration, and sanitary laws pursuant to UNCLOS Article 33.

Continental Shelf

The seabed and subsoil of the submarine areas that extend beyond the territorial sea throughout the natural prolongation of a coastal state's land territory to the outer edge of the continental margin, or to 200 nautical miles where the margin does not extend that far, over which the coastal state exercises sovereign rights over natural resources pursuant to UNCLOS Articles 76 to 85.

Critical Legal Studies (CLS)

A movement in legal scholarship that challenges the ostensibly neutral and technical character of law, revealing its political and ideological dimensions; in maritime law, CLS highlights how international maritime norms reflect and reinforce the interests of technologically advanced states.

D

Due Diligence

A standard of conduct in international law requiring states to take all necessary measures to prevent, reduce, and control harm, assessed not by strict liability but by whether the state has made its best efforts given available means and knowledge; confirmed by ITLOS in Advisory Opinion No. 31 as applicable to greenhouse gas emissions as marine pollution.

E

Ecosystem-Based Management (EBM)

An integrated approach to managing human activities that considers the entire ecosystem, including humans, with the goal of maintaining ecosystems in a healthy, productive, and resilient condition so that they can provide the services humans want and need.

EEZ (Exclusive Economic Zone)

A maritime zone established by UNCLOS Article 55 extending up to 200 nautical miles from the baseline within which the coastal state has sovereign rights for exploring, exploiting, conserving, and managing natural resources, and jurisdiction over artificial islands, marine scientific research, and marine environmental protection.

EITI

The Extractive Industries Transparency Initiative, an international standard requiring participating states to publish information about revenues from oil, gas, and mineral extraction to promote accountability.

Environmental Impact Assessment (EIA)

A procedural obligation under international environmental law requiring states to assess the potential effects on the environment before authorising activities that may have a significant impact on the marine environment, enshrined in UNCLOS Article 206 and elaborated in the BBNJ Agreement.

Equidistance Principle

A method of maritime boundary delimitation under which the boundary is drawn at equal distances from the nearest baselines of the states on either side; UNCLOS Articles 15, 74, and 83 provide that equidistance serves as a starting point, subject to adjustment for relevant circumstances to achieve an equitable result.

Equitable Delimitation

The governing principle for the delimitation of EEZ and continental shelf boundaries under UNCLOS Articles 74 and 83, requiring states to reach an equitable solution by reference to relevant circumstances, which may justify adjustment of a provisional equidistance line.

F

Flag State

The state under whose flag a vessel is registered and to which the vessel bears the nationality; flag states bear primary jurisdiction and responsibility for vessels flying their flag on the high seas pursuant to UNCLOS Article 94.

Freedom of the Seas (Mare Liberum)

The doctrine, foundationally articulated by Hugo Grotius in his 1609 work Mare Liberum, that the sea cannot be subject to territorial sovereignty because it is by nature incapable of appropriation, and that all states enjoy freedom of navigation and other uses of the high seas.

G

Grey Area

A situation created by the Bangladesh-India PCA Award (2014) in which the area between the EEZ boundary and the outer continental shelf boundary produces a zone where Bangladesh has continental shelf rights over the seabed but India retains EEZ rights in the superjacent water column, creating complex jurisdictional challenges for resource governance and environmental regulation.

H

High Seas

All parts of the sea that are not included in a state's EEZ, territorial sea, internal waters, or archipelagic waters, governed under UNCLOS Part VII by the principle of freedom including freedom of navigation, overflight, fishing, scientific research, and cable and pipeline laying.

Hilsa

Tenualosa ilisha, the national fish of Bangladesh, an anadromous species of critical ecological, economic, and cultural significance that migrates between the Bay of Bengal and the rivers of Bangladesh, necessitating transboundary conservation cooperation.

Hostis Humani Generis

Latin for 'enemy of all mankind'; a classical legal characterisation of pirates, justifying their prosecution by any state that captures them regardless of the nationality of the pirates or their victims, underpinning the universal jurisdiction over piracy in UNCLOS Articles 100 to 107.

Hot Pursuit

The right of a coastal state to pursue a foreign vessel into the high seas when there are good reasons to believe that the vessel has violated the laws and regulations of that state within its maritime zones, codified in UNCLOS Article 111.

I

IUU Fishing

Illegal, Unreported, and Unregulated fishing: activities that violate national or international fisheries laws and regulations, or are conducted without reporting to relevant management authorities, representing a major threat to marine ecosystem sustainability and a governance failure in Bangladesh's EEZ.

J

Jus Cogens

Peremptory norms of general international law from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character; examples include the prohibition of genocide, slavery, and torture.

Jus Gentium

The law of nations; in the classical tradition, the body of legal rules and principles applicable between states and founded on natural reason and the common practice of civilised nations; the predecessor of modern international law.

M

Mare Clausum

Latin for 'closed sea'; the doctrine advanced by English jurist John Selden in his 1635 work of that name, arguing that the sea is capable of appropriation by states and that England exercised sovereignty over adjacent seas; the principal counterposition to Grotius's Mare Liberum.

Mare Liberum

Latin for 'free sea'; the foundational doctrine of freedom of the seas articulated by Hugo Grotius in his 1609 treatise, arguing on natural law grounds that the sea cannot be territorially appropriated and that all nations enjoy freedom of navigation and trade.

Mare Nostrum

Latin for 'our sea'; the Roman Empire's designation for the Mediterranean Sea, simultaneously a geographical description and a political claim of control, reflecting the coexistence of the philosophical concept of res communis with the practical assertion of maritime dominance.

Marine Spatial Planning (MSP)

A public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives, typically expressed through regulatory frameworks governing which activities may occur where in a state's maritime zones.

Maximum Sustainable Yield (MSY)

The maximum amount of a fish stock that can be caught consistently over time without causing long-term depletion; UNCLOS Article 61 requires coastal states to ensure that the maintenance of living resources in the EEZ is not endangered by over-exploitation and to maintain populations at or above the level capable of producing MSY.

O

Opinio Juris

The belief by states that a practice is legally obligatory, constituting alongside state practice one of the two elements required for the formation of customary international law.

Outer Continental Shelf

The portion of the continental shelf extending beyond 200 nautical miles from the baseline, to which a coastal state may be entitled under UNCLOS Article 76 where the geological continental margin extends beyond 200 nautical miles; entitlement must be established through submissions to the CLCS.

P

Paris Agreement

The 2015 international climate treaty adopted under the UNFCCC, requiring state parties to submit Nationally Determined Contributions (NDCs) to reduce greenhouse gas emissions and pursue efforts to limit global warming to 1.5°C above pre-industrial levels.

Permanent Sovereignty over Natural Resources

A principle of international law, affirmed in UN General Assembly Resolution 1803 (1962), providing that every state has the right to exercise sovereignty over its natural resources in the interest of national development and the well-being of the people of the state.

Petrobangla

The Bangladesh Oil, Gas and Mineral Corporation, the national state enterprise responsible for the supervision of exploration and exploitation of oil, natural gas, and mineral resources in Bangladesh, including the coordination of offshore hydrocarbon development.

Piracy (Legal Definition under UNCLOS)

Any illegal acts of violence, detention, or depredation committed for private ends by the crew or passengers of a private ship or aircraft against another ship or aircraft or persons or property on board, on the high seas or in a place outside the jurisdiction of any state, pursuant to UNCLOS Articles 100 to 107.

Port State Control (PSC)

The inspection regime under which a port state may inspect foreign ships calling at its ports to verify compliance with international maritime safety, labour, and environmental standards, exercised through regional memoranda of understanding such as the Paris MOU and the Tokyo MOU.

Precautionary Principle

A principle of environmental law providing that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty shall not be used as a reason for postponing preventive measures; enshrined in the Rio Declaration (1992) and progressively incorporated into international fisheries and environmental law.

Production Sharing Contract (PSC)

A contractual model for offshore hydrocarbon development under which the host state grants an international oil company the right to explore and produce petroleum resources in exchange for a share of the production, with the state retaining ownership of the resources and the contractor recovering costs from a defined portion of production.

R

Res Communis Omnium

Latin for 'common to all'; the Roman jurisprudential concept characterising the sea as incapable of private ownership, belonging by its nature to all people; articulated in the

Institutes of Justinian and adopted as the philosophical foundation of Grotius's mare liberum doctrine.

Right of Innocent Passage

The right of all ships to pass through the territorial sea of another state without stopping, provided that the passage is continuous, expeditious, and not prejudicial to the peace, good order, or security of the coastal state, codified in UNCLOS Articles 17 to 32.

S

Sovereign Rights

Rights over the exploration, exploitation, conservation, and management of natural resources in the EEZ and continental shelf, distinguished from territorial sovereignty by their functional character; coastal states possess sovereign rights for specific purposes rather than plenary sovereignty in the Westphalian sense.

State Responsibility

The body of principles of international law governing the legal consequences of a state's breach of its international obligations, including the obligation to cease the wrongful act and to make full reparation; the International Law Commission's Articles on State Responsibility (2001) codify these principles.

Sundarbans

The world's largest mangrove forest, straddling the border between Bangladesh and the Indian state of West Bengal, designated a UNESCO World Heritage Site and a Ramsar wetland, providing critical ecological services and constituting a complex legal space at the intersection of maritime law, international environmental law, and bilateral treaty obligations.

T

Terrae Potestas Finitur Ubi Finitur Armorum Vis

Latin maxim attributed to Cornelius van Bynkershoek meaning 'the power of the land ends where the power of arms ends'; the philosophical expression of the cannon-shot rule, grounding coastal state jurisdiction in the physical capacity of enforcement.

Territorial Sea

The belt of sea extending up to 12 nautical miles from the baseline within which the coastal state exercises sovereignty, subject to the right of innocent passage by ships of all states, pursuant to UNCLOS Articles 2 to 32.

Third World Approaches to International Law (TWAIL)

A critical scholarship movement associated with scholars including Antony Anghie and Bhupinder Chimni, arguing that international law reflects structures of inequality and colonial domination rather than universal principles, and examining how international legal rules systematically disadvantage developing states.

Trail Smelter Principle

The principle established in the Trail Smelter Arbitration (1941) between the United States and Canada that no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another state; a foundational principle of international environmental law.

Truman Proclamations (1945)

Two proclamations by US President Harry Truman asserting US jurisdiction over the natural resources of the continental shelf and establishing conservation zones in adjacent fisheries areas; inaugurated the modern expansion of coastal state jurisdiction and set the stage for the UNCLOS III negotiations.

TWAIL

See Third World Approaches to International Law.

U

UNCLOS (United Nations Convention on the Law of the Sea, 1982)

The principal multilateral treaty governing the law of the sea, adopted at the Third United Nations Conference on the Law of the Sea in Montego Bay, Jamaica, on 10 December 1982, entered into force on 16 November 1994; widely described as the 'constitution of the oceans', establishing the zonal system of maritime jurisdiction, the dispute settlement system, and the common heritage of mankind regime for the deep seabed.

UNFSA (UN Fish Stocks Agreement, 1995)

The 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, establishing binding obligations for flag states and regional fisheries management organisations.

V

Vision 2041

Bangladesh's national development strategy targeting achievement of upper-middle-income country status by 2031 and developed country status by 2041, in which the blue economy and maritime resources constitute a significant strategic pillar.

ABOUT THE BOOK

This twenty-part commentary provides a comprehensive legal, philosophical, and jurisprudential analysis of the law of the sea as it applies to Bangladesh, from the ancient foundations of maritime sovereignty to the most recent developments in international climate jurisprudence and deep-seabed governance. It examines the historical evolution of UNCLOS, the landmark ITLOS (2012) and PCA (2014) arbitrations that secured Bangladesh's maritime boundaries, and the critical gaps in Bangladesh's domestic legal framework across fisheries, offshore energy, marine environmental protection, shipping, admiralty jurisdiction, seafarers' rights, and institutional governance.

The work engages deeply with the 2024 ITLOS Advisory Opinion on climate change, the 2025 ICJ Advisory Opinion, and the BBNJ Agreement (in force January 2026). It proposes an integrated reform agenda anchored in a comprehensive Maritime Code, a National Maritime Authority, marine spatial planning, and constitutional recognition of baseline stability in an era of sea-level rise.

Ultimately, the commentary argues that Bangladesh must move from fragmented colonial-era legislation to a coherent, equitable, and sustainable maritime legal architecture that serves its people, its blue economy aspirations, and its responsibilties to the global ocean commons.

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